A NATURAL AREAS INVENTORY OF AMES IOWA

WILLIAM NORRIS

JULY 18, 1994

A Natural Areas Inventory of Ames, Iowa

Report Prepared by William R. Norris

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INTRODUCTION

This report is the culmination of an intensive inventory of natural resources in Ames, Iowa. This inventory was initiated by the Ames City Planning Office in 1991. A committee of local natural history experts and concerned citizens has supervised this inventory from its inception to this final report. Chaired by Ames City Planning Director Brian O'Connell, members include Judy Shearer, Don Farrar, Steve Lekwa, Bob Dyas, Cindy Hildebrand, George Patrick, Trish Patrick, Bob Moorman and Jim Pease. An ISU graduate student, William Norris, was hired in 1991 to conduct the field work needed to complete the inventory. Another ISU graduate student, Tangela Jones, did a lot of background work in the Ames City Planning Office prior to this field work. She compiled a database of landowners and made many landowner contacts by phone to obtain permission to survey private land. Towards the end of the project, Ruth Herzburg was hired to help prepare the maps for this final report. The staff of the Ames City Planning Office was also involved with this inventory on many occasions.

Much research was conducted prior to the field work to develop definitions of natural resource types as well as methods to rate the quality of woodlands, prairies and wetlands. The Ames City Council approved definitions for the various natural resource types in fall 1991, and appropriated money to finance the inventory from 1991 through 1993. Grants from Iowa State University and the Iowa Science Foundation also supported the inventory at various times.

The details of the methods used to rate natural resource quality will be outlined in a future report to accompany this one. In this volume, the intention is to present the definitions of the various resource types approved by the Ames City Council, to present the quality levels (A, B, C, D. and S) used to describe these resources (as defined by the committee), and finally to provide a set of maps (with accompanying written descriptions) that summarizes the results of the inventory.

The maps were prepared on topographic maps available from the Ames City Planning Office. These maps have a 1:12000 scale and were created in the 1950's. Hence, they very

accurately depict the topography of regions in Ames but they are often not accurate with respect to road systems and landmarks. Some regions of the project boundary were not covered by these city planning maps, and in these instances 1:24000 USGS topographic maps were used (available from the SCS office in Nevada). These USGS maps were also used to create a composite map to accompany this report as a key for the individual maps in this volume.

I would like to thank all the committee members for their patience, advice, and encouragement throughout this project.

William R. Norris

NATURAL RESOURCE AREA DEFINITIONS

1. **Prairie**: An area of land in which any portion exceeding 500 square feet is more than 30% covered by, or contains at least 10 species of, naturally occurring plants native to Iowa prairie communities as recognized in the checklist of Iowa native prairie plants by the Iowa Department of Natural Resources Preserves and Ecological Services Bureau. (See attached list)

2. **Wetland**: An area of land in which any portion exceeding one acre is more than 50% covered by soil classified as wetland soil by the Soil Survey of Story County, and supports a plant community consisting primarily of native wetland plants as recognized in "A Checklist of the Aquatic and Wetland Vascular Plants of Iowa" (Lammers, T.G. and A.G. van der Valk, 1977, Proc. Iowa Acad. Sci., 84:41-88 and 1978, Proc. Iowa Acad. Sci., 85:121-163).

3. **Woodland**: An area of land exceeding one acre which supports 200 or more trees per acre, or has more than 50% canopy closure per acre, by trees native to Iowa as listed in Forest and Shade Trees of Iowa (Van der Linden, P.J. and D.R. Farrar, Iowa State University Press, Ames, IA, 1984).

4. **Streams**: Waters that are free-flowing and support an ecosystem of native riparian plants and animals.

5. **Special Resources**: Areas or specimens that may not quality as natural areas, but offer valuable recreation, education, cultural or biological resources. Examples might include but are not limited to the following:

    a) tree plantations (of woodland size)
    b) geological resources (e.g., gravel pits, rock quarries)
    c) road rights-of-way
    d) railroad rights-of-way
    e) rare species and unusual specimens (e.g., exceptionally large or old trees).

AMES NATURAL AREA INVENTORY

Quality Levels: Sensitivity to Use

A) HIGHLY NATURAL

Worthy of preserve status. Any development or use which destroys native vegetation and/or natural features will significantly lower the quality of the area.

Biking, camping, and other recreational activities are not compatible with maintaining the natural quality found here.

B) MOSTLY NATURAL

Any development or use which destroys native vegetation and/or other natural features will significantly lower the quality of the area.

Biking, camping, and other recreational activities are not compatible with maintaining the natural quality found here.

C) MODERATELY ALTERED

Some development or use might be possible without destroying the natural elements responsible for this rating.

Some recreational activities (biking, camping, etc.) might be compatible with maintaining the natural quality found here.

D) HIGHLY ALTERED

Some development or use might be possible without destroying the natural elements responsible for this rating.

Some recreational activities (biking, camping, etc.) might be compatible with maintaining the natural quality found here.

DESCRIPTIONS OF NATURAL QUALITY LEVELS FOR WOODLANDS

A. Undisturbed natural communities composed of the expected diversity of native species.

Example: Old growth, ungrazed forest

B. Lightly disturbed communities in which both overstory and understory are predominantly composed of species expected under natural conditions.

Example: Forests that have been selectively logged or grazed without destroying the structure and natural diversity of the community.

C. Distributed communities in which either the overstory or the understory is not predominantly composed of species expected under natural conditions.

Example: Forests in which the understory and ground cover have been severely altered by grazing or recreation.

D. Heavily disturbed communities in which neither the overstory nor the understory is predominantly composed of species expected under natural conditions.

Example: An upland forest in which the overstory and the understory have developed following severe recent disturbance.

DESCRIPTIONS OF NATURAL QUALITY LEVELS FOR PRAIRIES

A) Grassland with a high diversity of native prairie species* (at least 60 species).

B) Grassland with a good diversity of native prairie species (30-59 species).

C) Grassland with an average diversity of native prairie species (10-29 species).

D) Grassland with a poor diversity of native prairie species (0-9 species).

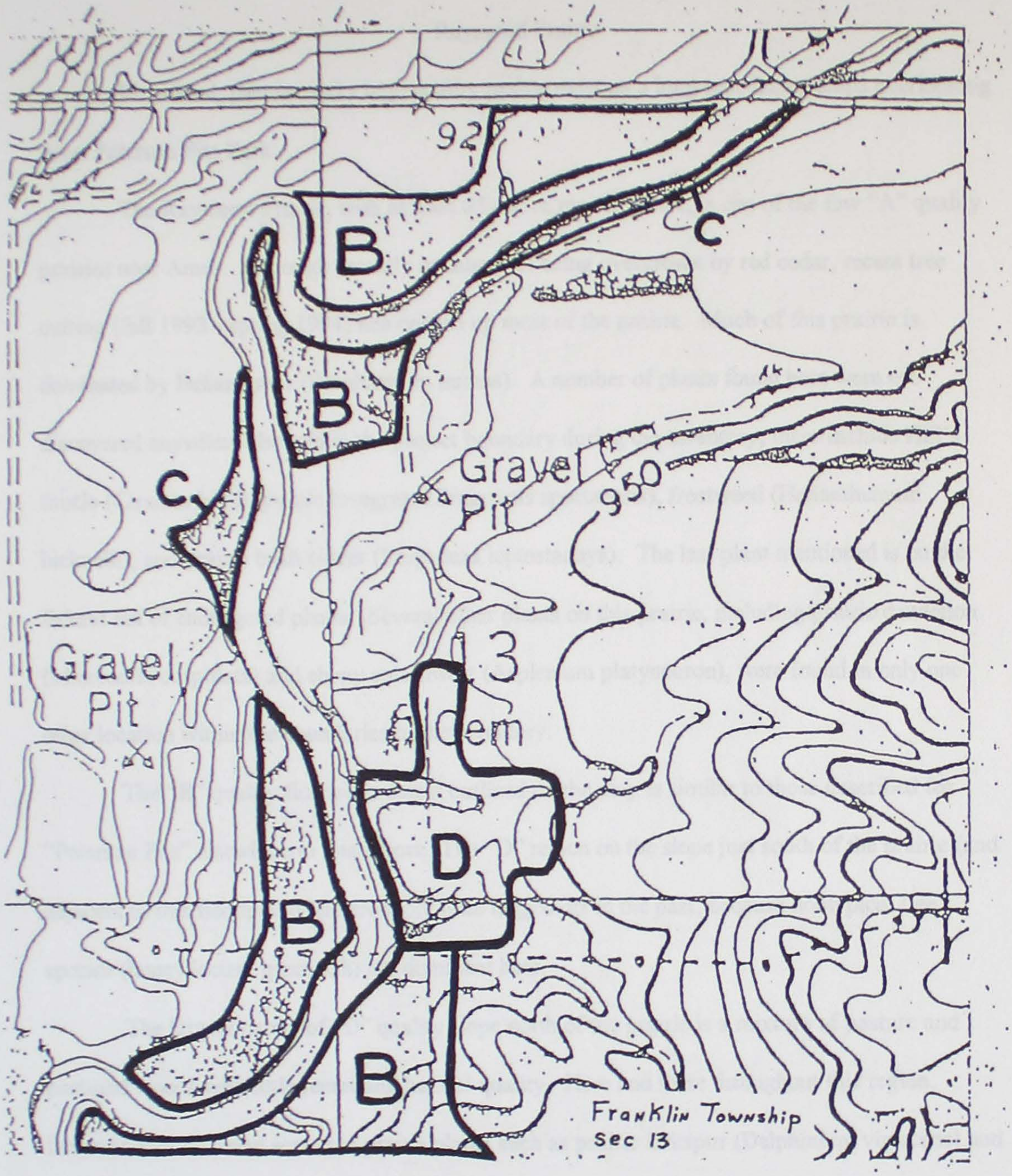
* A "prairie species" is one included in a list of native prairie plants of Iowa compiled by John Pearson, Iowa DNR.

Peterson Pits

Narrow woodland strips occur along the Skunk River in a public area known as Peterson Pits.

Most of the larger strips contain "B" quality woodlands. Almost all trees, saplings and shrubs found here are typical of floodplain forests, but diversity is not always high in these areas. Canopy trees commonly found in these areas include honey locust, cottonwood, black walnut, silver maple, hackberry, boxelder, green ash and American elm. Gooseberry is frequently dominant in the understory, as are elm and hackberry saplings.

The "C" quality regions possess the same species in the canopy and understory but they are less diverse. The "D" quality area is a very young woodland dominated by boxelder saplings.



PETERSON PITS PARK

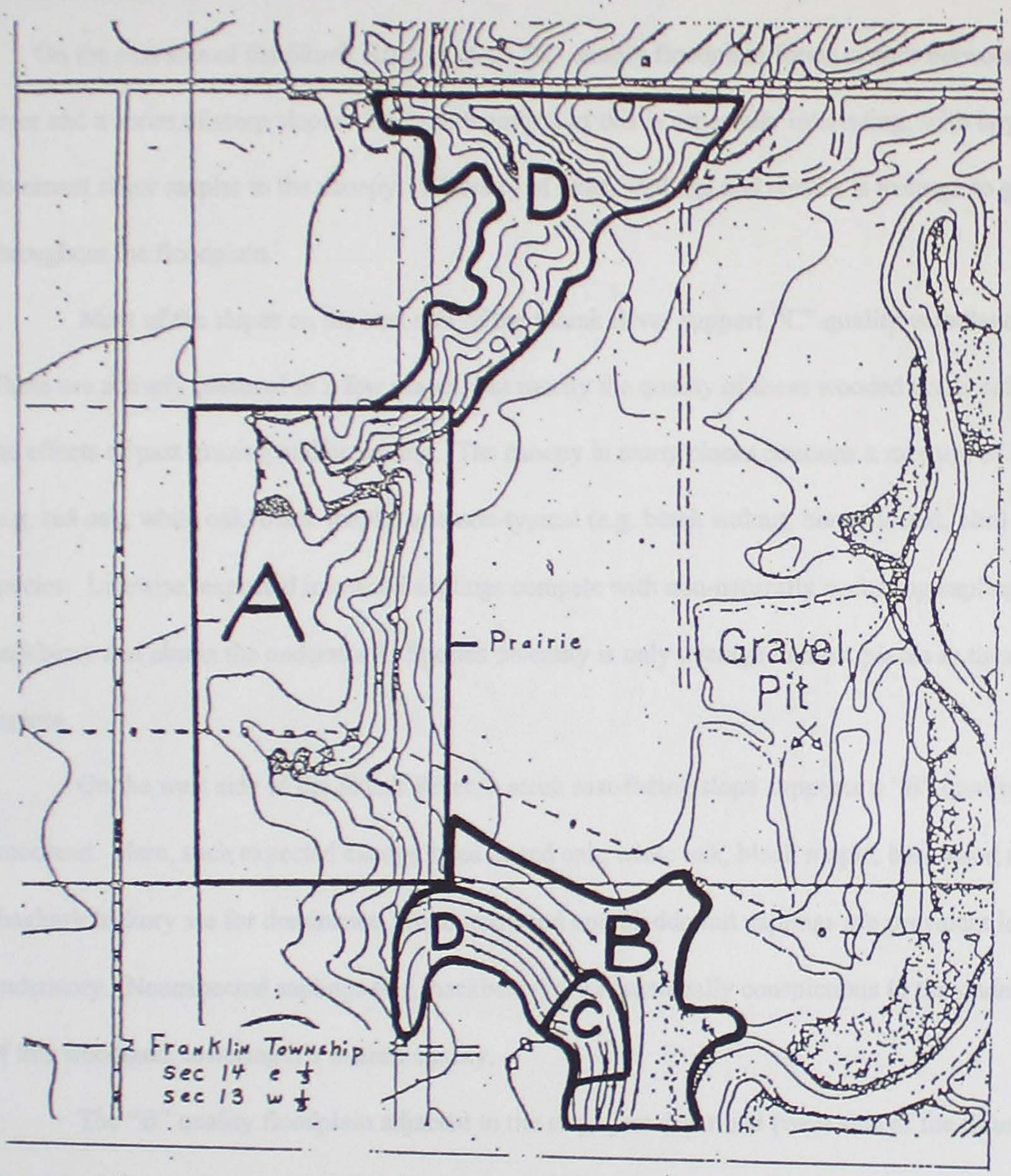
Raymond Prairie

Woodland, pasture and a high quality prairie exist on a long east-facing slope overlooking West Peterson Pits Park.

The Raymond Prairie, with at least 65 native prairie plants, is one of the few "A" quality prairies near Ames. Although recently in danger of being overgrown by red cedar, recent tree cutting (fall 1993 - spring 1994) has opened up most of the prairie. Much of this prairie is dominated by Indian grass (Sorghastrum nutans). A number of plants found here were not discovered anywhere else within the project boundary during the inventory; these include Hill's thistle (Cirsium hillii), purple lovegrass (Eragrostis spectabalis), frostweed (Helianthemum bicknelli), and prairie bush clover (Lespedeza leptostachya). The last plant mentioned is on the federal list of endangered plants. Several other plants on this prairie, including prairie dandelion (Microseris cuspidata) and ebony spleenwort (Asplenium platyneuron), were found in only one other location within the boundaries of the inventory.

The "B" quality floodplain forest outlined on the map is similar to those described for "Peterson Pits" elsewhere in this report. The "D" region on the slope just south of the prairie (and adjacent to this floodplain) has probably been logged off in the past, because nontypical tree species (honey locust, green ash) are dominant here.

The largest parcel of "D" quality slope north of the prairie is a mixture of pasture and pastured woods with little remaining natural quality. Here and there throughout this region, however, can be found scattered prairie plants such as prairie larkspur (Delphinium virescens) and pale purple coneflower (Echinacea pallida).



RAYMOND PRAIRIE

Quarries

A number of "B" and "C" quality woodlands occur in the vicinity of quarries on both sides of the Skunk River.

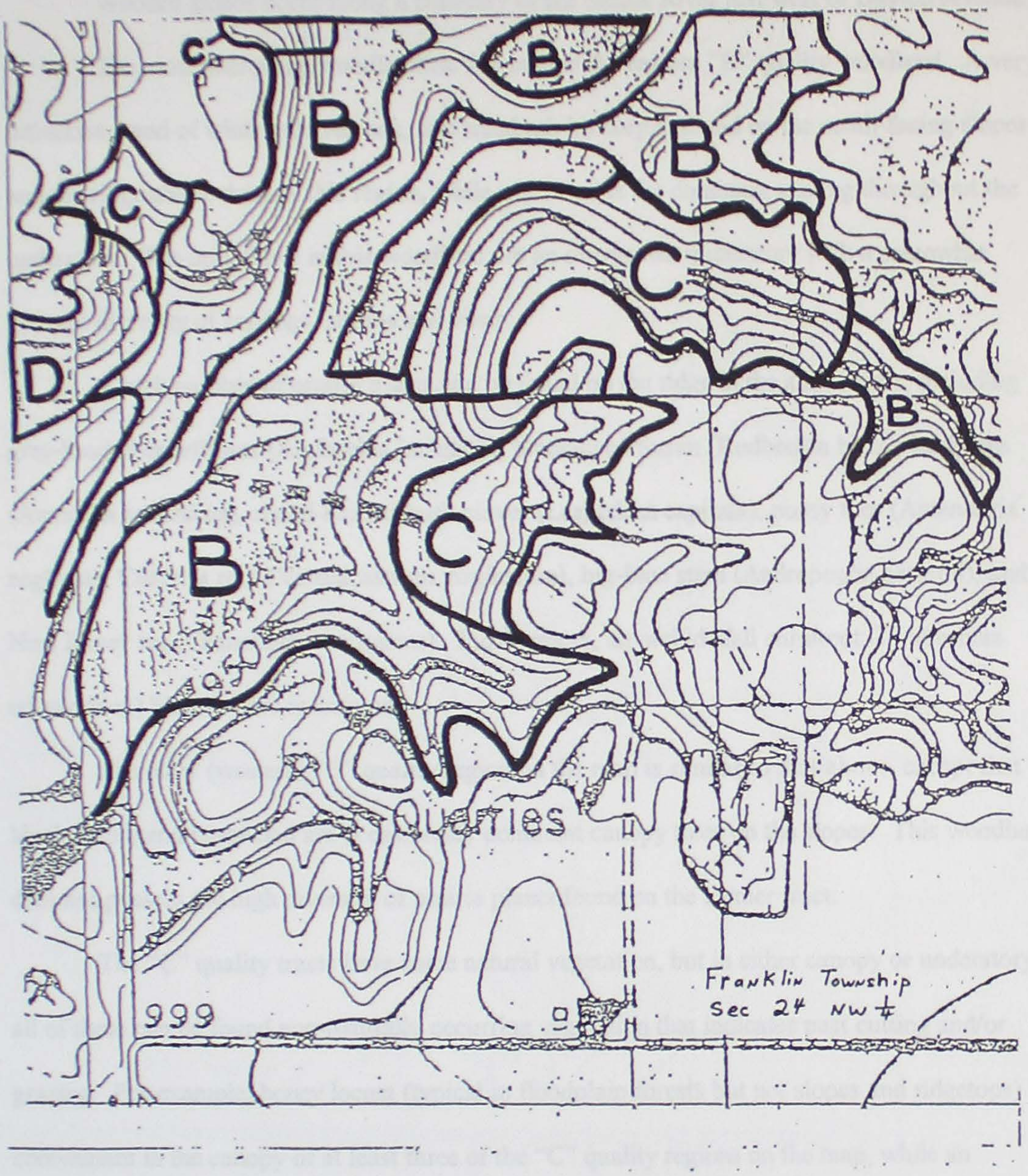
On the east side of the Skunk River, a large "B" quality floodplain forest occurs between the river and a series of steep slopes. The south portion of this is especially interesting, with large, dominant silver maples in the canopy. Diversity of trees, saplings and shrubs is average to good throughout the floodplain.

Most of the slopes on the east side of the Skunk River support "C" quality woodlands. These are actively pastured in a few places, but mostly the quality of these wooded tracts reflects the effects of past grazing and/or cutting. The canopy in many places contains a mixture of typical (e.g. red oak, white oak, black maple) and non-typical (e.g. black walnut, honey locust, elm) tree species. Likewise, expected ironwood saplings compete with non-naturally occurring saplings like hackberry and elm in the understory. Species diversity is only average in most places in these regions.

On the west side of the Skunk River, a steep east-facing slope supports a "B" quality woodland. Here, such expected canopy trees as red oak, white oak, black maple, basswood and shagbark hickory vie for dominance, while ironwood and bladdernut saplings are prevalent in the understory. Nonexpected saplings (e.g. hackberry) are occasionally conspicuous in the understory of this woodland, lowering it's overall quality.

The "B" quality floodplain adjacent to the slope just described (west side of the Skunk River) has almost all typical species, but tree and sapling diversity is only average in places.

The "C" and "D" quality woodlands on the west side of the Skunk have nontypical species dominant in the canopy and understory, evidence of past cutting and/or grazing.



QUARRIES

Dayton Avenue

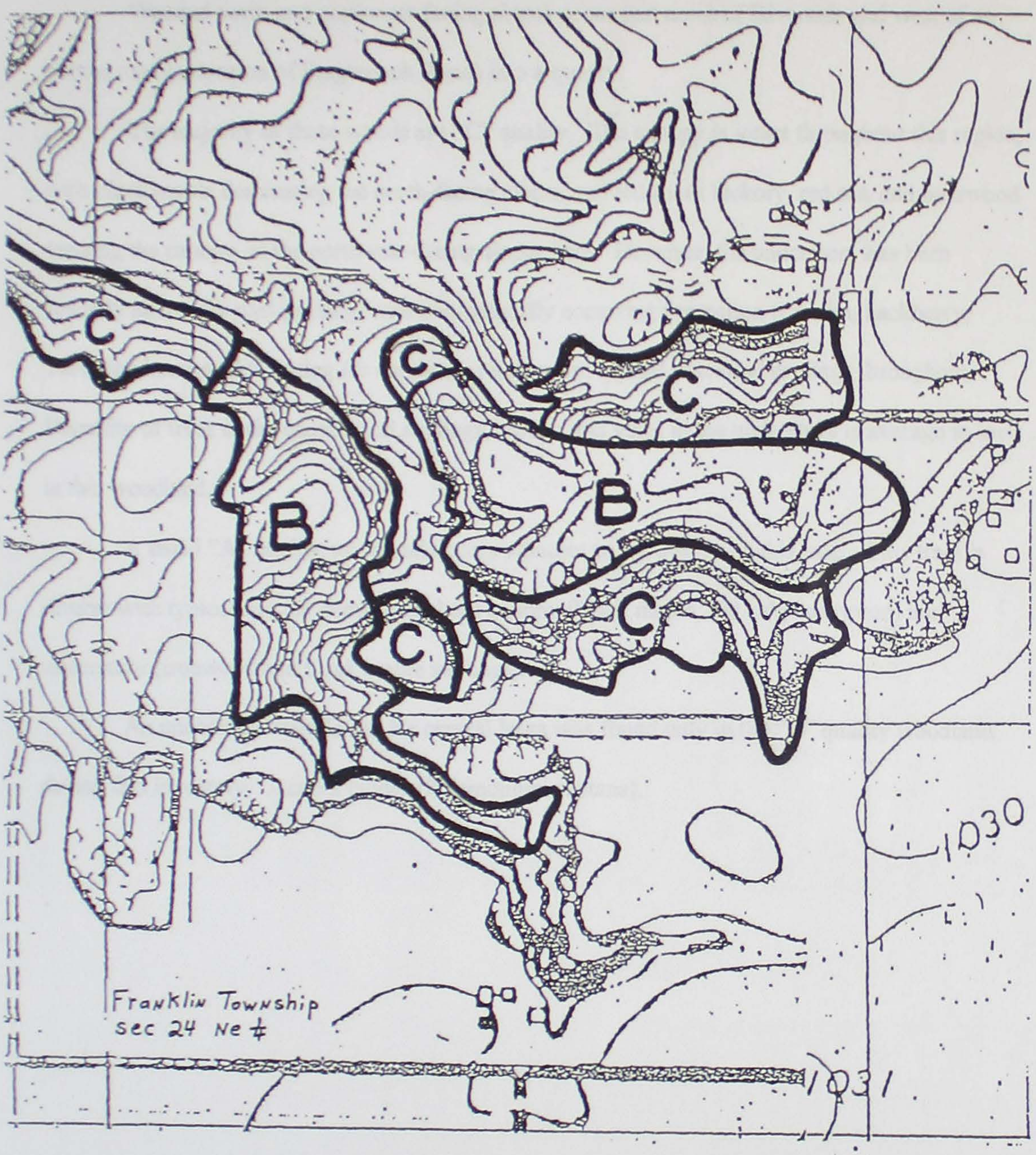
Wooded slopes occur along a tributary of the Skunk River just west of Dayton Avenue.

The most interesting woodland on this map is the eastern "B" quality woodland. A very attractive stand of white oak, red oak, and shagbark hickory is found on the south-facing slopes and the ridge above them in this region, while ironwood is the dominant sapling throughout the understory. The only flaws in this woodland are an overgrown understory with a somewhat average diversity of saplings, shrubs and vines.

A high number of prairie plants can be found on the ridge in the above tract, including grey-headed coneflower (Rudbeckia laciniata), black-eyed Susan (Rudbeckia hirta), leadplant (Amorpha canescens), round-headed bush clover (Lespedeza capitata), pussy toes (Antennaria neglecta), Culver's root (Veronicastrum virginicum), big-blue stem (Andropogon gerardii), and New Jersey tea (Ceanothus americanus). Furthermore, an orchid (fall coralroot:Corallorhiza odontorhiza) blooms here in autumn.

The other (western) "B" quality region on the map is similar to that above, except that black maple and basswood are occasionally dominant canopy trees on the slopes. This woodland does not possess the high diversity of prairie plants found on the former tract.

The "C" quality tracts have some natural vegetation, but in either canopy or understory of all of these can be found non-naturally occurring vegetation that indicates past cutting and/or grazing. For example, honey locust (typical in floodplain forests but not slopes and ridgetops) is codominant in the canopy of at least three of the "C" quality regions on the map, while an introduced shrub (Tartarian honeysuckle) and two non-typical saplings (hackberry and elm, expected in bottomlands but not on slopes and ridgetops) are frequently conspicuous in the understories of the "C" quality woodlands.



DAYTON AVENUE

Riverside (North)

Wooded north and northwest-facing slopes occur just north of Riverside and west of an access road (extension of Stagecoach Road) into a quarry.

The majority of these woods are "C" quality. The canopy is intact throughout this region, with black maple dominating the north-facing slopes and shagbark hickory, red oak and basswood forming the canopy on the northwest-facing slopes here. However, the understory has been severely altered by past grazing, with non-naturally occurring vegetation (i.e. elm, hackberry, Tartarian honeysuckle) vying for dominance with more typical ironwood saplings throughout. Diversity of trees in the canopy and saplings, shrubs and vines in the understory is average to low in this woodland.

A small "A" quality woodland occurs adjacent to the quarry on this map. This tract is diverse with typical species dominating both canopy (black maple, red oak, basswood) and understory (ironwood and black maple saplings).

An uncommon wildflower for central Iowa was found only in the "C" quality woodland during this inventory: Jacob's ladder (Polemonium reptans).

RIVERSIDE (NORTH)

Riverside (South)

A series of slopes bounded by Stagecoach Road to the east and Riverside to the north supports mature oak woodlands of varying quality.

The highest quality region on these tracts ("B" quality level) has large white oaks dominant in the canopy, with lesser amounts of bur oak and red oak present also. The understory here contains substantial amounts of naturally occurring ironwood, but mixed in with it are nontypical saplings and shrubs (i.e. hackberry, elm and prickly ash) which indicate past grazing on these slopes. The presence of these grazing indictors lowers the overall quality of this woodland.

The "C" quality tracts on the map are similar to the "B" tract (with dominant oaks in their canopies) but the understories of all three are dominated by saplings and shrubs not typical of high quality wooded slopes (hackberry, elm, prickly ash and Tartarian honeysuckle).

The "D" quality woodlands have non-typical vegetation in both canopy and understory. The southern-most of the "D" regions is largely open, with grassy fields replacing the oak woodlands occurring in the "C" and "B" quality areas north of it.

Several uncommon herbs occur on these slopes. In the wooded areas, a prairie plant (Culver's root: Veronicastrum virginicum) is frequent underneath the oak trees. In these same areas can be found the dissected grape fern (Botrychium dissectum var. obliquum), which is one of two known sites for this species in Ames (a first county record for this fern). Finally, a state threatened plant occurs on slopes in the large "D" quality region: ladies's tresses (Spiranthes ovalis). The preferred habit for this orchid is disturbed woodlands, and this is precisely where it occurs here: beneath a dense thicket of shrubs.

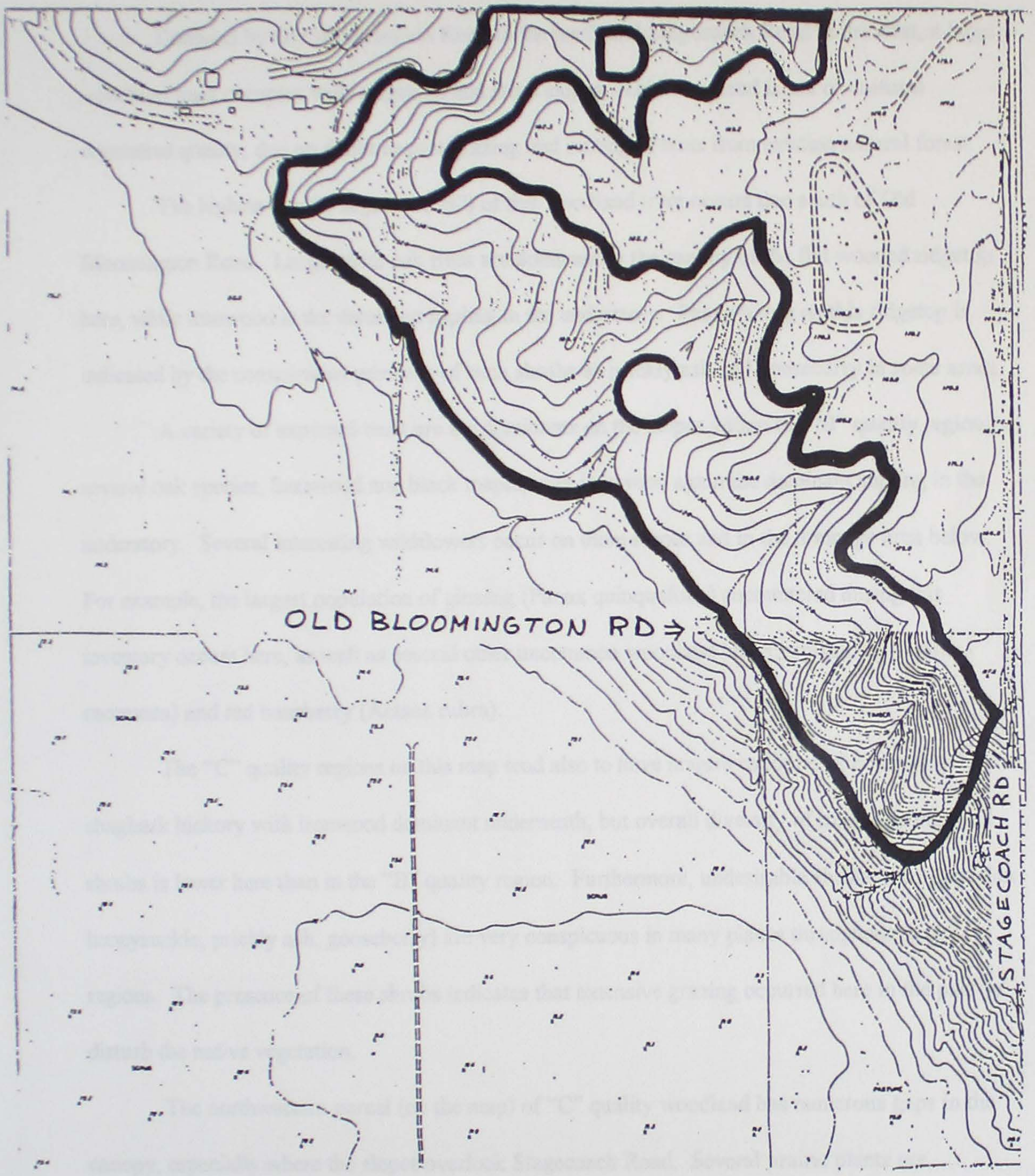
RIVERSIDE (SOUTH)

Old Bloomington Road (North)

A sequence of steep southwest-facing slopes occurs just west of Stagecoach Road, mostly north of Old Bloomington Road. These support a rather uniform woodland of "C" quality. The dominant trees in this woodland are expected species for such a habitat: shagbark hickory, red oak, white oak and bur oak. However, the understory contains a mixture of typical (ironwood) and nontypical (hackberry, elm) saplings throughout the tract, indicating a past disturbance (i.e. grazing).

In the "D" quality region, both the canopy and the understory contain nontypical species as dominants. For example, cottonwood and honey locust are conspicuous (but unexpected) canopy components on the northwest-facing slopes in this area, while an introduced shrub, Tartarian honeysuckle, is very evident in the understory here. This region therefore possesses less natural quality than the "C" quality area on the map.

An uncommon orchid, fall coralroot (Corallorhiza odontorhiza), was encountered on the northwest-facing slopes shown at the top of this map.



OLD BLOOMINGTON ROAD (NORTH)

Old Bloomington Road (South)

Bounded by Old Bloomington Road to the north and Stagecoach Road to the west, a large woodland tract occupies wide ridgetops and steep slopes. This woodland is not of uniform vegetative quality, due no doubt to past grazing and cutting of trees from existing natural forest.

The highest quality segment ("B") of this woodland tract occurs due south of Old Bloomington Road. Large white oak trees are dominant in the canopy of the flat wooded ridgetop here, while ironwood is the dominant sapling in the understory. Past grazing on this ridgetop is indicated by the conspicuous presence of such shrubs as prickly ash and gooseberry in some areas.

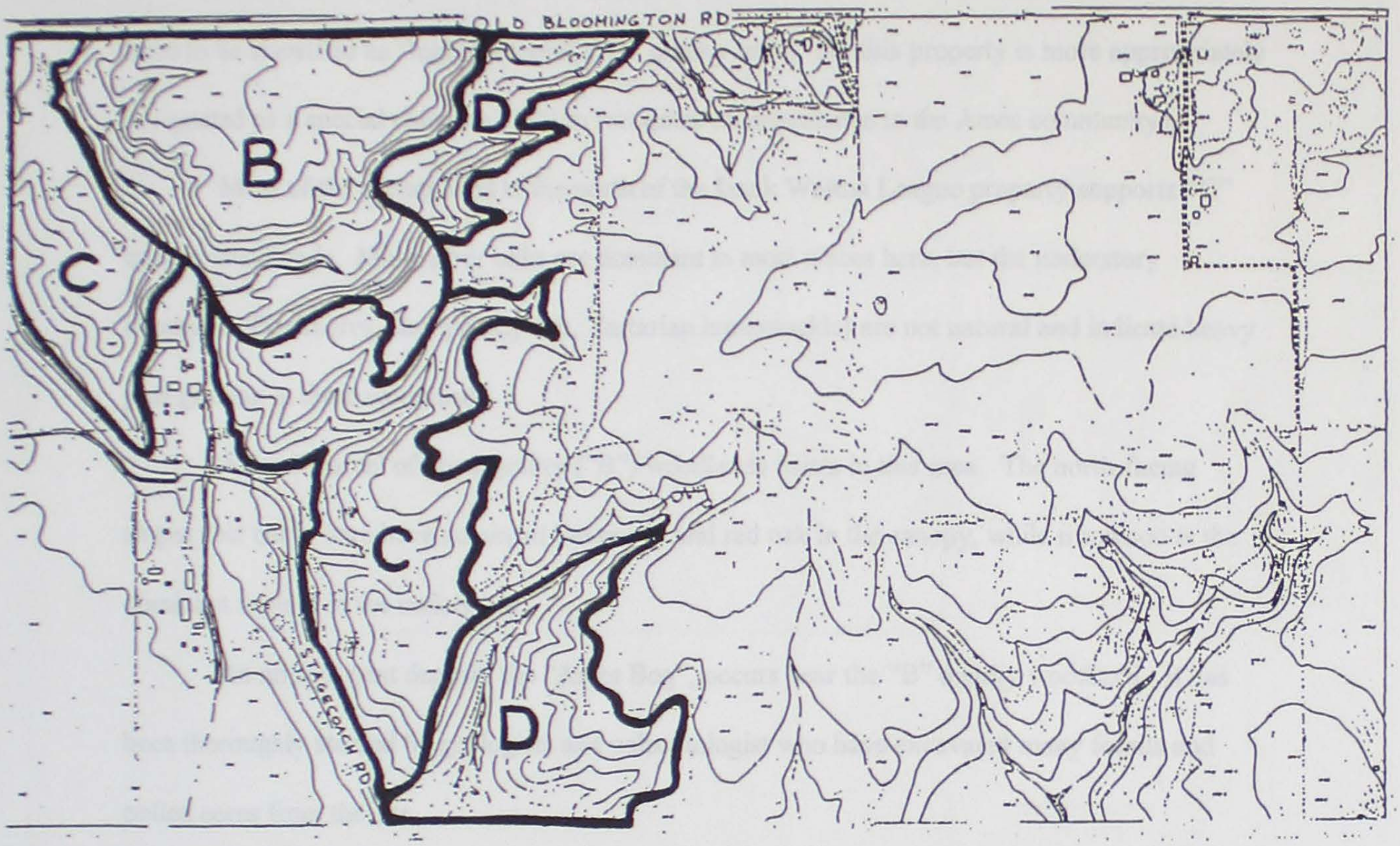
A variety of expected trees are the dominants on the slopes within the "B" quality region: several oak species, basswood and black maple, with ironwood again the dominant sapling in the understory. Several interesting wildflowers occur on these slopes and in the drainage area below. For example, the largest population of ginseng (Panax quinquefolia) encountered during this inventory occurs here, as well as several other uncommon woodland herbs: spikenard (Aralia racemosa) and red baneberry (Actaea rubra).

The "C" quality regions on this map tend also to have mature canopies of bur oak and shagbark hickory with ironwood dominant underneath, but overall diversity of trees, saplings and shrubs is lower here than in the "B" quality region. Furthermore, undesirable shrubs (i.e. Tartarian honeysuckle, prickly ash, gooseberry) are very conspicuous in many places throughout these regions. The presence of these shrubs indicates that extensive grazing occurred here in the past to disturb the native vegetation.

The northwestern parcel (on the map) of "C" quality woodland has numerous gaps in the canopy, especially where the slopes overlook Stagecoach Road. Several prairie plants are currently growing in these openings, including leadplant (Amorpha canescens) and side-oats grama (Bouteloua curtipendula).

In the "D" quality areas, both the canopy and the understory have dominant non-typical species in them. For example, in the "D" quality area at the south end of the map, the canopy is dominated by elm, honey locust and cottonwood. Apparently, the naturally occurring oaks, maples and basswood were cut at some time in the past here.

This entire wooded tract has a very uncommon tree (for Ames) growing in it: black oak. This tree was found only on the wooded slopes overlooking Stagecoach Road (this woodland tract and several others described elsewhere) during this inventory.



OLD BLOOMINGTON ROAD (SOUTH)

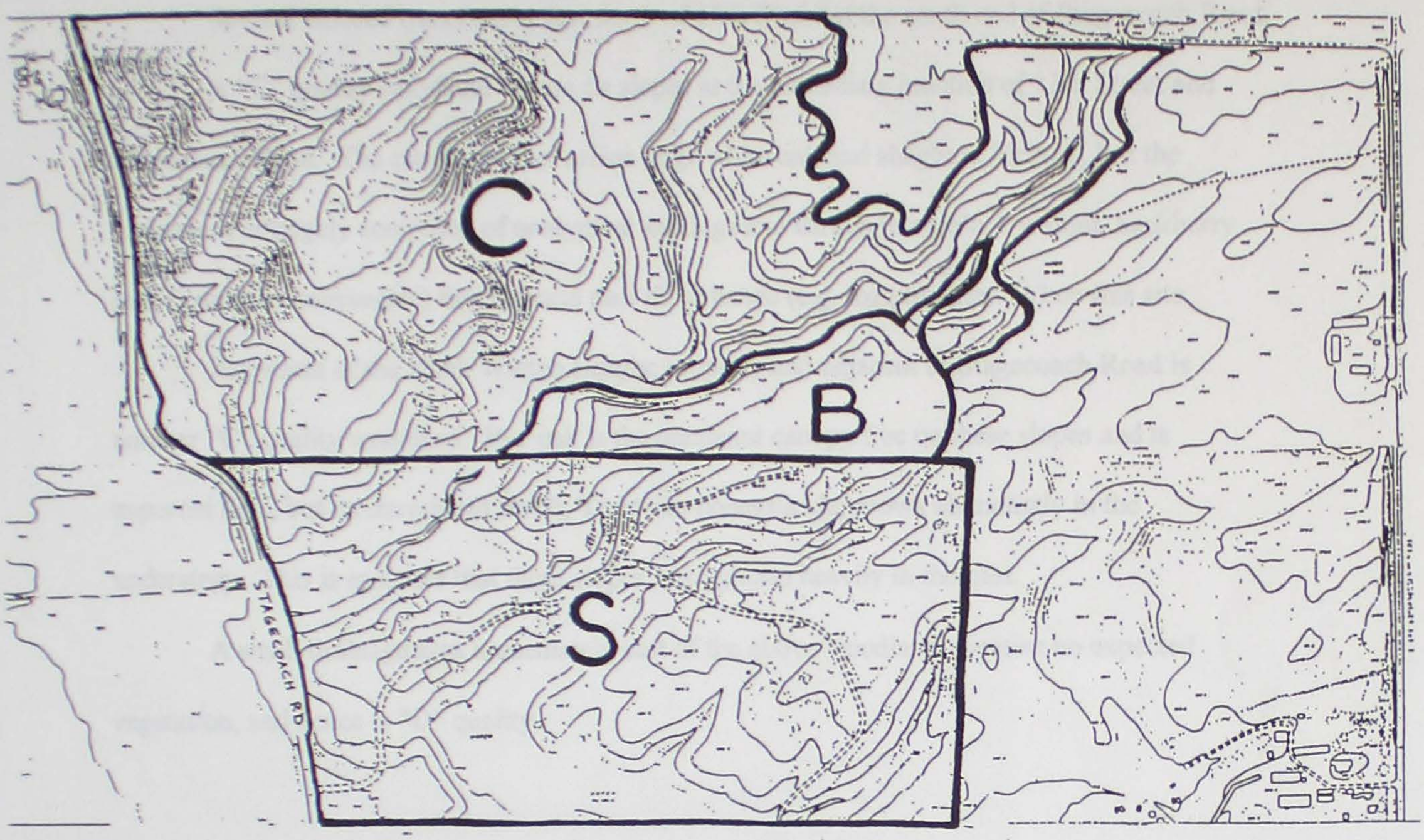
Izaak Walton League

A large recreational complex exists in the property owned by the Izaak Walton League. The woodlands have been altered to accommodate the many activities (archery, target shooting, boating, etc.) that occur here. Technically, most of the vegetation on Izaak Walton grounds would have to be classified as "highly altered" ("D" quality level), but this property is more appropriately designated as a special resource ("S") to recognize its importance to the Ames community).

Most of the private land to the north of the Izaak Walton League property supports "C" quality woodlands. Mature bur oaks are dominant in most places here, but the understory dominants (hackberry, elm, prickly ash, Tartarian honeysuckle) are not natural and indicate heavy past grazing in these woodlands.

A small parcel of good quality ("B") woodlands exists in this area. The north-facing slopes that occur here have dominant basswood and red oak in the canopy, while ironwood is the dominant sapling in the understory.

An ancient peat deposit, the "Ames Bog", occurs near the "B" quality woodland. It has been thoroughly studied by geologists and paleontologist who have excavated many fossils and pollen cores from the site.



IZAAK WALTON LEAGUE

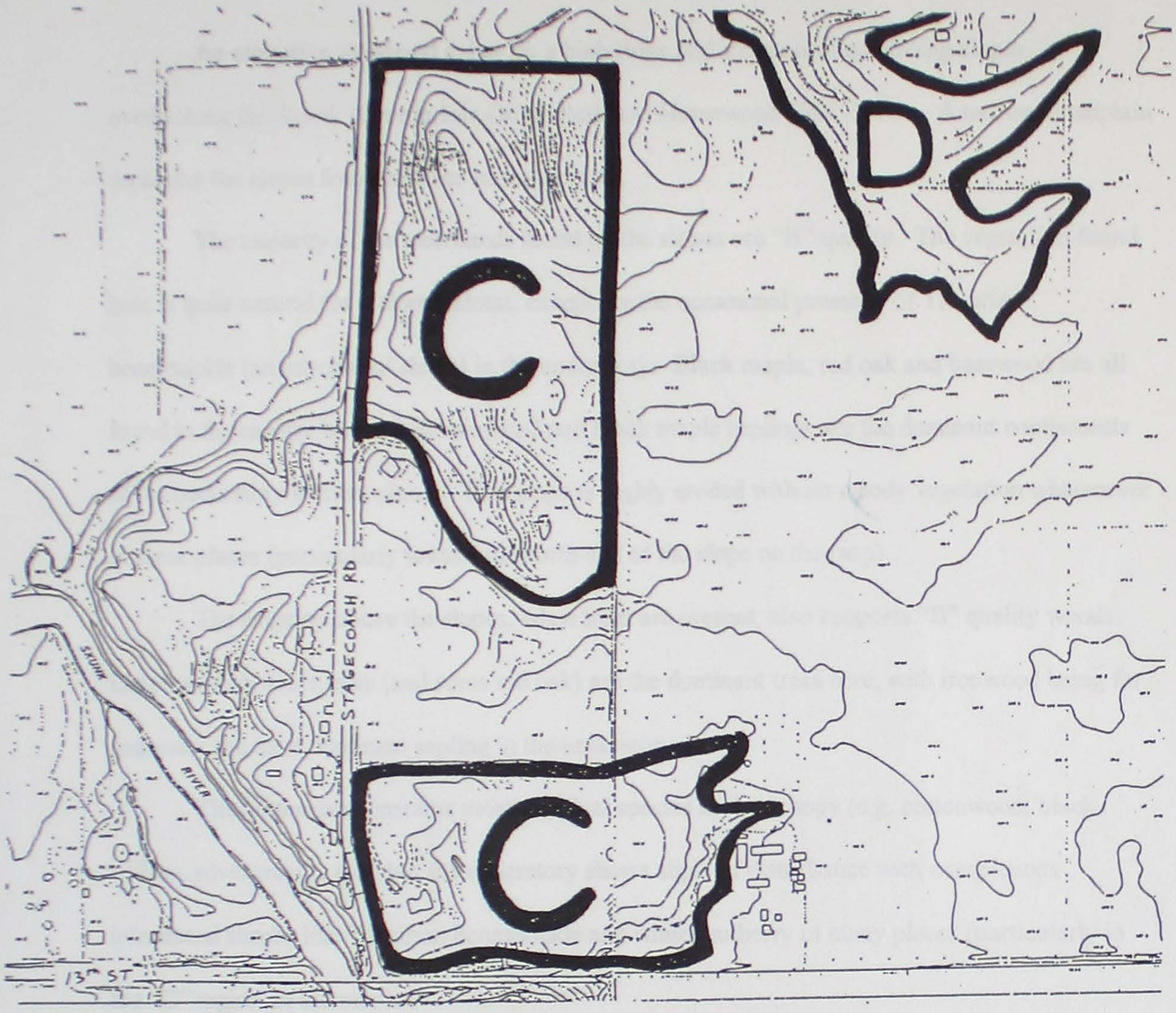
South Stagecoach Road

Several wooded tracts occur just north of 13th Street at the south end of Stagecoach Road.

A "C" quality woodland occurs on slopes at the immediate junction of 13th Street and Stagecoach Road. The canopy here contains large white oak and shagbark hickory, but the understory is largely composed of nontypical saplings and shrubs (elm, black walnut, hackberry and Tartarian honeysuckle) that indicate past disturbance (e.g. logging, grazing) on this site.

Just south of the Izaak Walton League property and adjacent to Stagecoach Road is another "C" quality woodland. Bur oak is the dominant canopy tree on these slopes and is expected here, but an introduced shrub, Tartarian honeysuckle, grows abundantly in the understory. This is evidence that these slopes were grazed heavily in the past.

A small drainage area immediately east of the above woodland contains no expected vegetation, and hence is "D" quality.



SOUTH STAGECOACH ROAD

Inis Grove Park-Homewood Golf Course

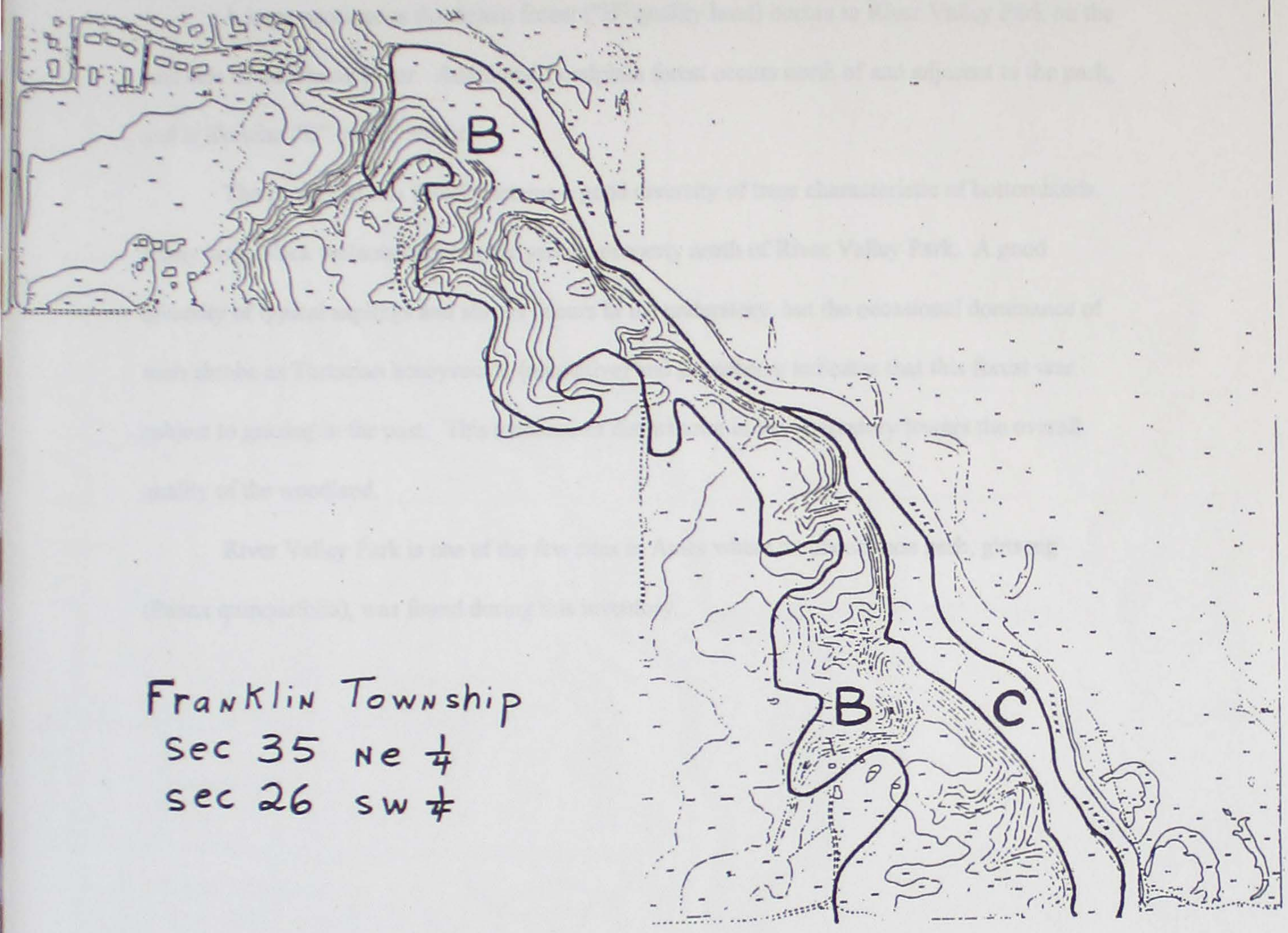
An attractive woodland exists on a high ridge and steep northeast-facing slopes overlooking the Skunk River in Inis Grove Park and Homewood Golf Course. A narrow floodplain separates the slopes from the river in most places.

The majority of the woodlands found on the slopes are "B" quality. The vegetation found here is quite natural for a slope habitat, except for the occasional presence of Tartarian honeysuckle (an introduced shrub) in the understory. Black maple, red oak and basswood are all found in the canopy here, while ironwood and black maple saplings are the dominant components of the understory in most places. This slope is highly eroded with no woody vegetation whatsoever in some places (particularly toward the north end of the slope on the map).

The ridgetop above the slopes, when trees are present, also supports "B" quality woods. Large, mature white oaks (and some red oak) are the dominant trees here, with ironwood being far and away the most dominant sapling in the understory.

The bottomland contains mostly typical species in the canopy (e.g. cottonwood, black willow, silver maple, etc.) but the understory shows signs of disturbance with conspicuous introduced shrubs like Tartarian honeysuckle and white mulberry in many places (particularly in the "C" region on the map).

A northern wildflower, wild sarsaparilla (Aralia nudicaulis), was encountered only underneath oak trees on the ridge adjacent to the golf course during the inventory.



Franklin Township
sec 35 NE ¼
sec 26 SW ¼

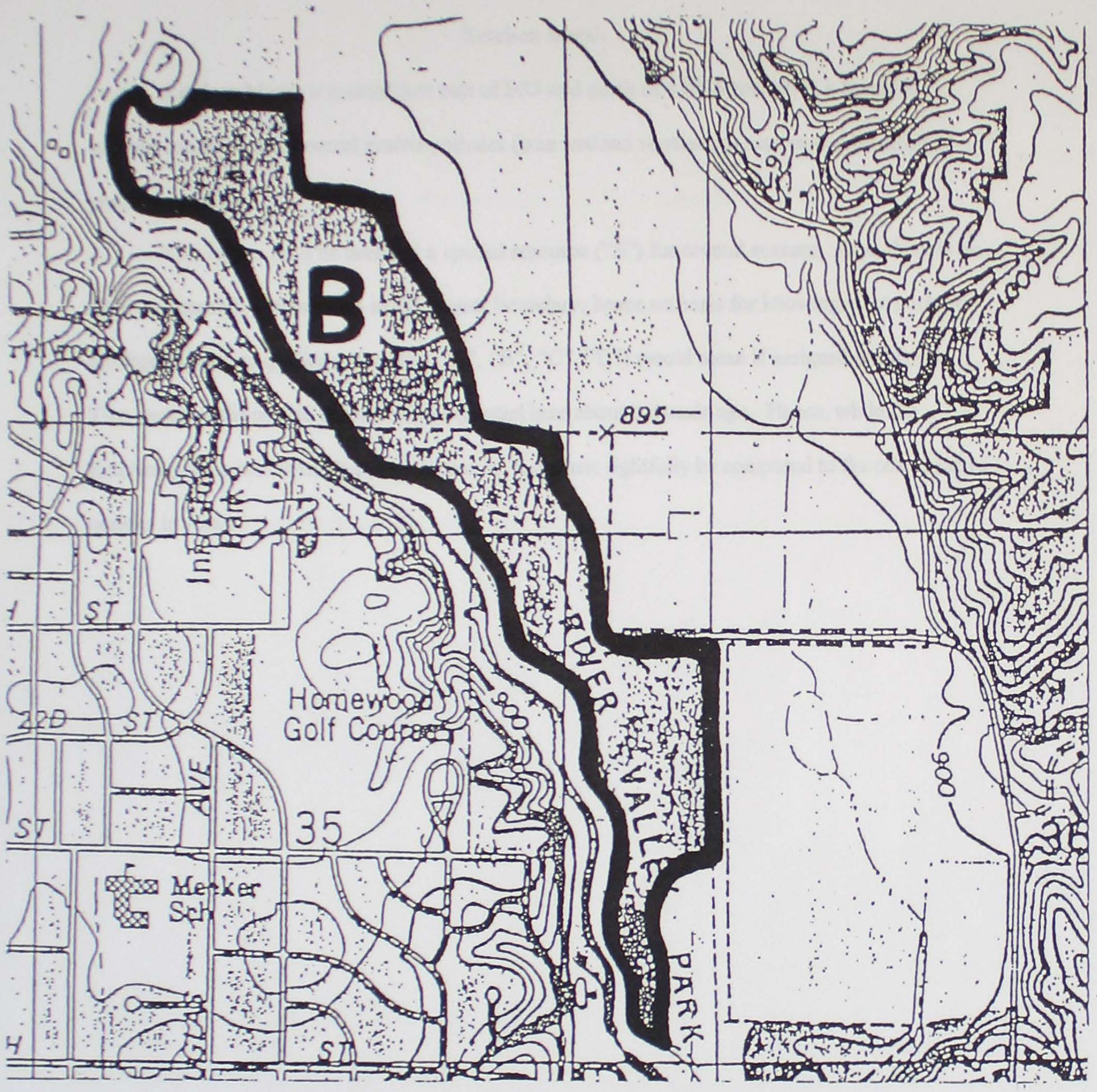
INIS GROVE PARK - HOMESTEAD GOLF COURSE

River Valley Park

A large continuous floodplain forest ("B" quality level) occurs in River Valley Park on the east side of the Skunk River. Additional floodplain forest occurs north of and adjacent to the park, and is likewise "B" quality forest.

The canopy of this forest contains a good diversity of trees characteristic of bottomlands. Many large black walnuts occur in the private property north of River Valley Park. A good diversity of typical saplings and shrubs occurs in the understory, but the occasional dominance of such shrubs as Tartarian honeysuckle (nonnative) and gooseberry indicates that this forest was subject to grazing in the past. This evidence of disturbance in the understory lowers the overall quality of the woodland.

River Valley Park is one of the few sites in Ames where an uncommon herb, ginseng (Panax quinquefolia), was found during this inventory.



RIVER VALLEY PARK

Ketelsen Marsh

Ketelsen Marsh is located just east of I-35 and north of 13th Street. It is a bonafide wetland complex, with several prairie potholes (true wetland vegetation) surrounded by strips of prairie vegetation.

This region shall be declared a special resource ("S") for several reasons. One, there is no other comparable wetland area in the project boundary, hence no basis for knowing what each of the four customary quality ratings (i.e. "A", "B", "C", "D") would mean if assigned to this site. Two, much of the prairie vegetation was planted here about a decade ago. Hence, while the Ketelsen prairie is a valuable natural resource, it can not rightfully be compared to the other, native prairies in Ames.

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Holub Prairie

An "A" quality prairie occurs just south of the Holub Greenhouse (the greenhouse is located on 13th Street, approximately 1.5 miles east of I-35). At least 63 prairie plants occur here, many of them species characteristic of wet prairies. Included among these are two orchids (Spiranthes cernua and Spiranthes magnicamporum) and several other prairie plants found nowhere else in Ames: a sedge (Carex frankii), ditch stonecrop (Penthorum sedoides), and common agalinus (Agalinus tenuifolia).

Viewed from the road, the Holub prairie does not immediately impress one as being a high quality prairie because the site also supports a sizable stand of young trees. Removal of these trees would enhance the character of this prairie.

Stargrass Prairie

A 26-acre prairie occurs in the southwest corner of Section 17 in Grant Township. Over 100 prairie plants occur on this site, making Stargrass the most diverse prairie occurring within the boundaries of this inventory. Since this prairie was essentially reconstructed from seeds and rootstocks of prairie plants collected off-site, Stargrass is designated a special resource ("S").

Although some of the prairie plants found in the Stargrass Prairie occur naturally, many others were either grown from local seed (all collected within 20 miles of this site) or from soil plugs collected from local prairie remnants (none further than 35 miles from Stargrass). Many of the prairie remnants from where these prairie seeds and soil plugs were collected are now destroyed, making Stargrass an important reservoir of local prairie genotypes.

Skunk River (South of US-30)

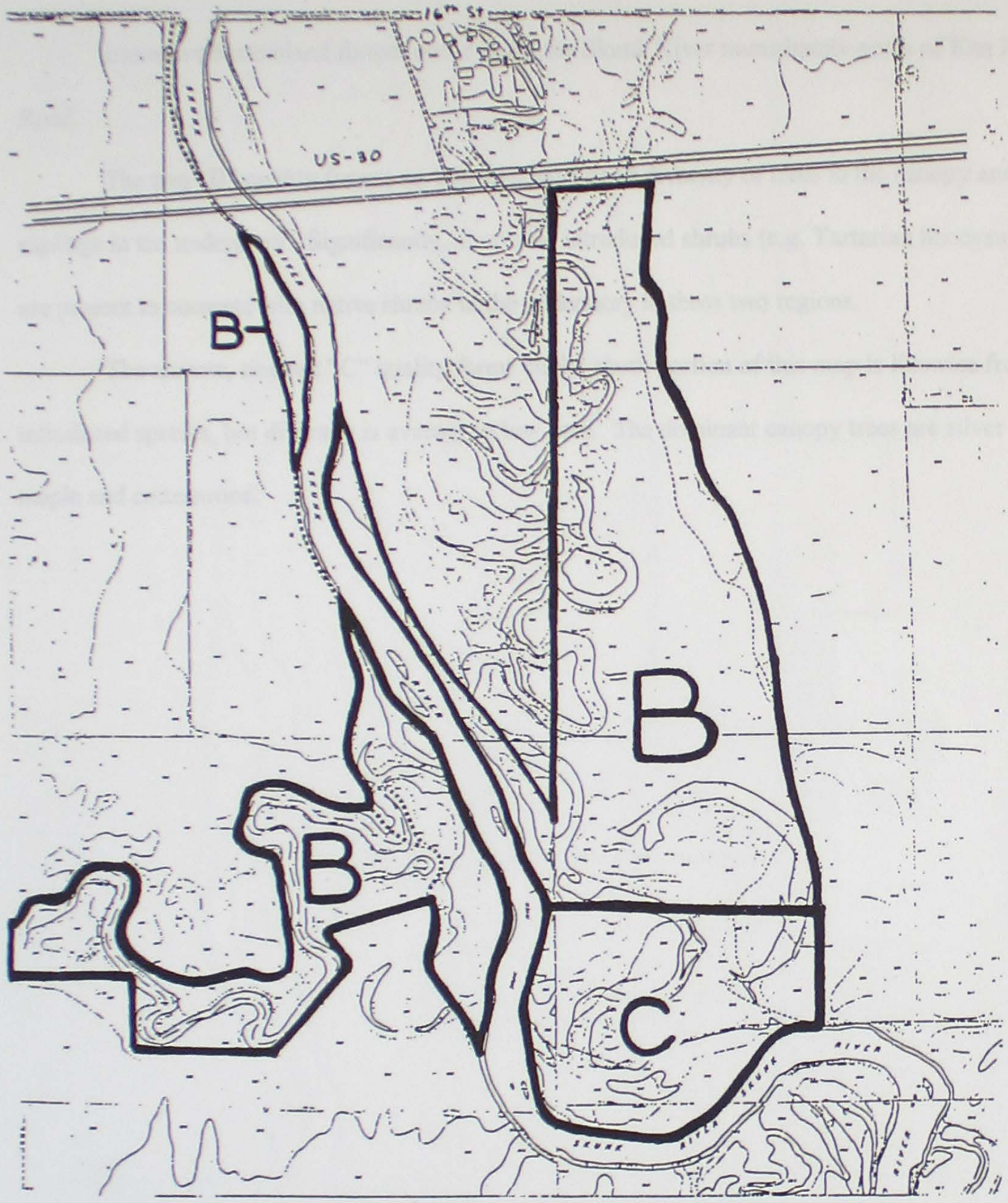
Substantial bottomland forest occurs along the Skunk River south of US-30.

Most of this forest is "B" quality. The large parcel of "B" quality forest east of the Skunk River is unique in that it possesses an extensive stand of large bur oak trees in the canopy, best developed on the northern end of the parcel. Elm and hackberry saplings are dominant in the understory here.

The narrow strips of "B" quality forest that occur in the bends of the Skunk River (both sides) have silver maple dominant in the canopy and boxelder predominant in the understory.

The crooked tract of "B" quality forest on the west side of the river contains a good diversity of trees in the canopy, with no one species dominant throughout the tract. However, the understory is uniformly dominated by hackberry saplings in this woodland.

The "C" quality woodland in this map is characterized by having the understory completely absent in many places, no doubt removed by the recent flooding in the area.



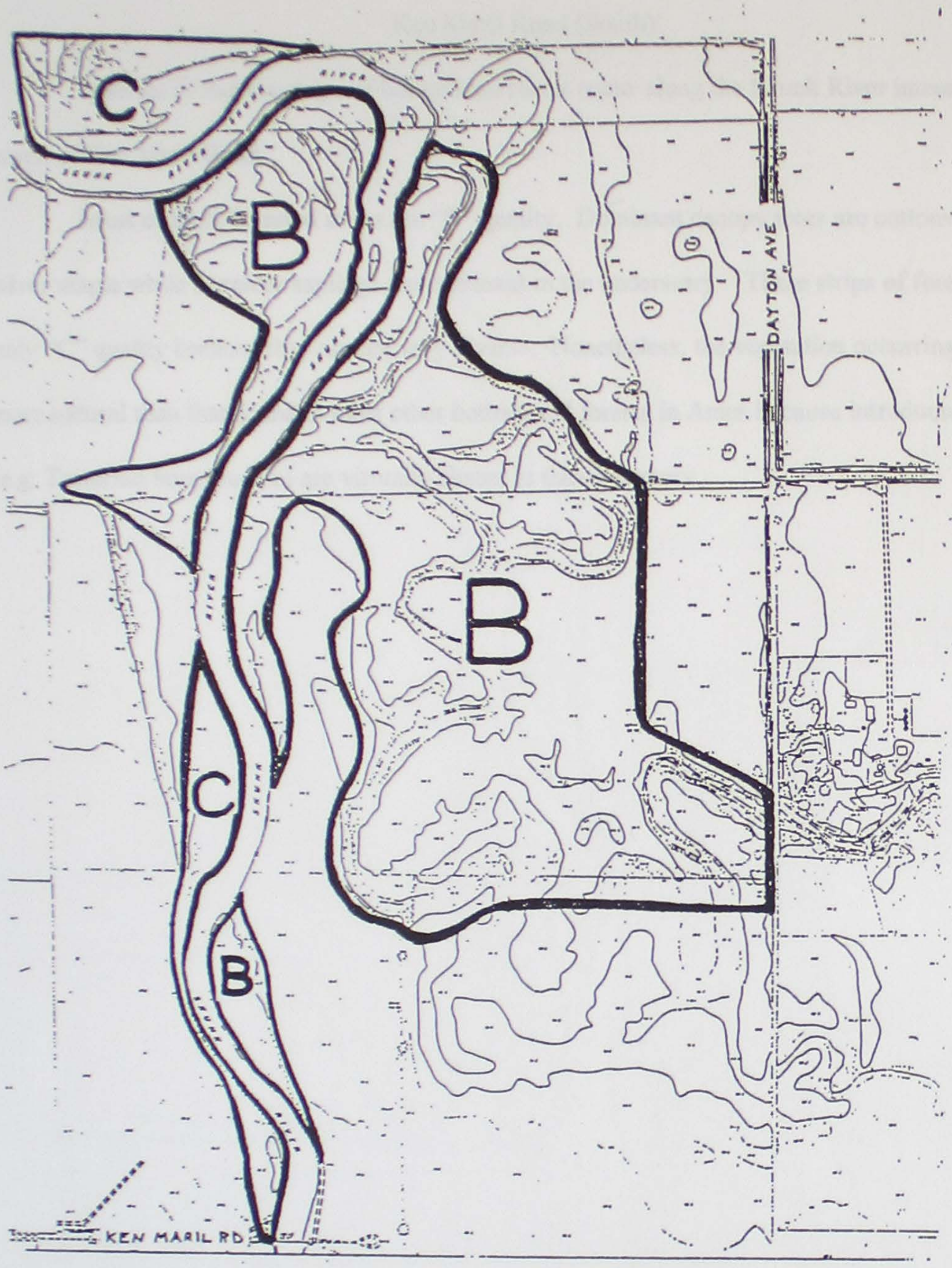
SKUNK RIVER (SOUTH OF US-30)

Ken Maril Road (North)

Extensive bottomland forests occur along the Skunk River immediately north of Ken Maril Road.

The two "B" quality forests on this map have good diversity of trees in the canopy and saplings in the understory. Significantly, almost no introduced shrubs (e.g. Tartarian honeysuckle) are present to compete with native shrubs in the understory in these two regions.

The narrow, sinuous "C" quality forest on the south portion of this map is likewise free of introduced species, but diversity is average to low here. The dominant canopy trees are silver maple and cottonwood.

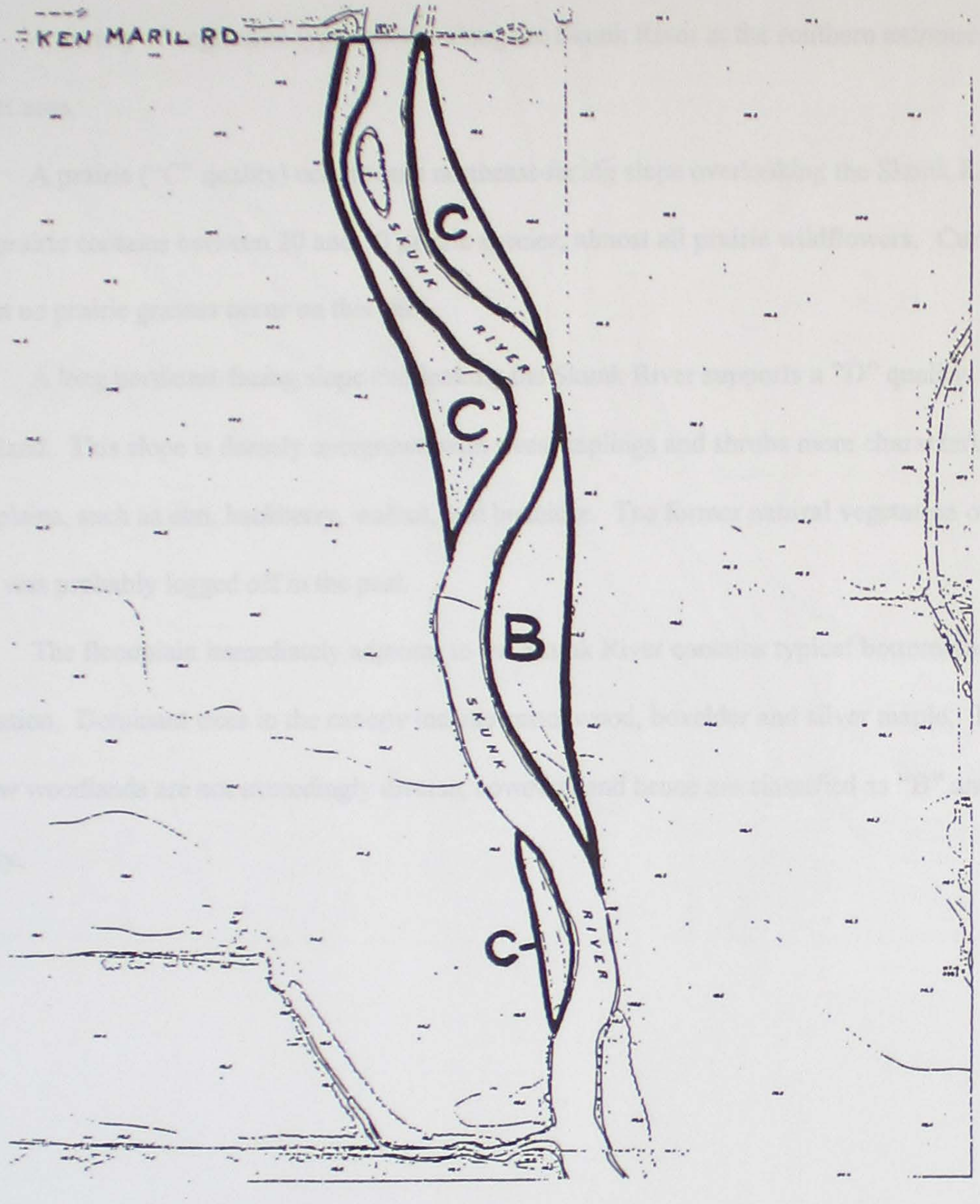


KEN MARIL ROAD (NORTH)

Ken Maril Road (South)

A series of narrow strips of bottomland forest occur along the Skunk River immediately south of Ken Maril Road.

Most of these forested strips are "C" quality. Dominant canopy trees are cottonwood and silver maple while boxelder saplings are dominant in the understory. These strips of forest are only "C" quality because they are not very diverse. Nonetheless, the vegetation occurring here is more natural than that found in most other bottomland forests in Ames because introduced shrubs (e.g. Tartarian honeysuckle) are virtually absent in the understory.



KEN MARIL ROAD (SOUTH)

South Skunk River

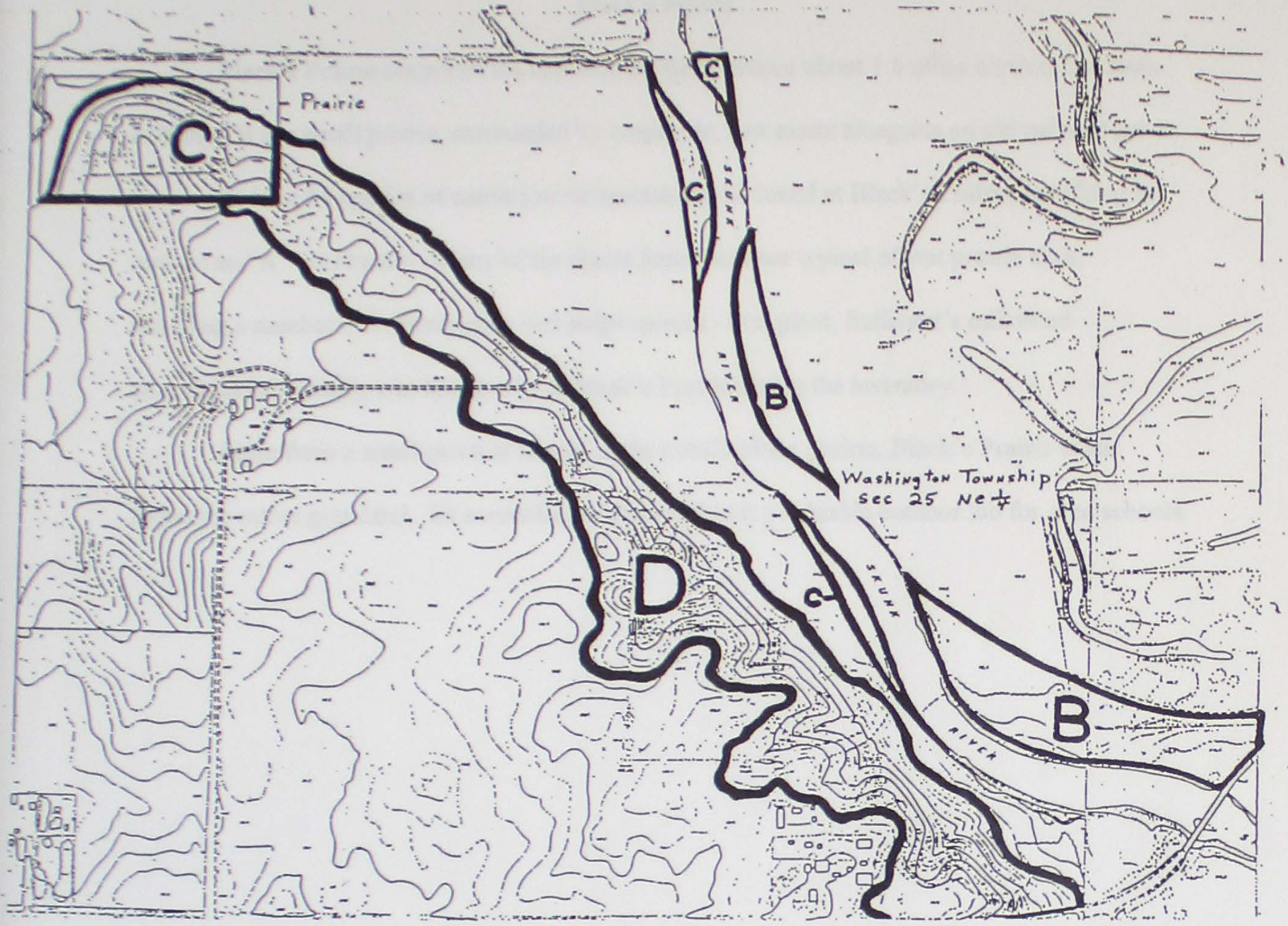
A variety of vegetation types occurs along the Skunk River at the southern extreme of the project area.

A prairie ("C" quality) occurs on a northeast-facing slope overlooking the Skunk River. This prairie contains between 20 and 30 prairie species, almost all prairie wildflowers. Curiously, almost no prairie grasses occur on this site.

A long northeast-facing slope overlooking the Skunk River supports a "D" quality woodland. This slope is densely overgrown with trees, saplings and shrubs more characteristic of floodplains, such as elm, hackberry, walnut, and boxelder. The former natural vegetation on this slope was probably logged off in the past.

The floodplain immediately adjacent to the Skunk River contains typical bottomland vegetation. Dominant trees in the canopy include cottonwood, boxelder and silver maple. These narrow woodlands are not exceedingly diverse, however, and hence are classified as "B" and "C" quality.

SOUTH SKUNK RIVER



SOUTH SKUNK RIVER

Black's Prairie

Black's Prairie occurs on the east side of State Avenue about 1.5 miles north of the town of Kelly. It is a small prairie, surrounded by cropfields, that exists alongside an old railroad grade.

At least 64 species of native prairie species can be found at Black's Prairie, justifying its rank as an "A" quality site. Many of the plants found here are typical of wet prairie sites, including a number of wetland grass and sedge species. One plant, Sullivant's milkweed (Asclepias sullivantii), was found only at Black's Prairie during the inventory.

Aside from a small patch of shrubs in the middle of the prairie, Black's Prairie is an attractive native grassland. Its accessible location makes it a valuable outdoor lab for area schools.

Adams Prairie

A high ("A") quality prairie exists along an abandoned railroad grade that intersects Elwood Drive just after it becomes a dirt road when one travels south on it.

The Adams Prairie is a moist prairie, very similar to the R-38 railroad prairie described elsewhere in this report. At least 68 native prairie plants occur here, including many sedges, bulrushes, and other semi-aquatic plants. While most of the prairie plants found on the Adams Prairie can be found somewhere else on a prairie in Ames, there are very few other local prairies that have them all together on one site like this one. Particularly striking in the fall are the blooming bottle and downy gentians that occur here.

Svejde Prairie

A "B" quality prairie exists just south of the US-30 overpass near the end of a bicycle trail. At least 32 prairie species were found here during the inventory, none of them unique to this prairie. These plants are scattered on the east side of the bicycle trail among many small, weedy trees.

The casual observer might not recognize the Svejde Prairie as a "prairie" because there is no field of tall, waving grasses to catch the eye. Indeed, one has to get off of the bicycle trail and tramp alongside it to discover the prairie plants among the weeds. Nonetheless, this site has a good diversity of prairie species and thus the potential to be managed into a much more eye-catching prairie than exists now.

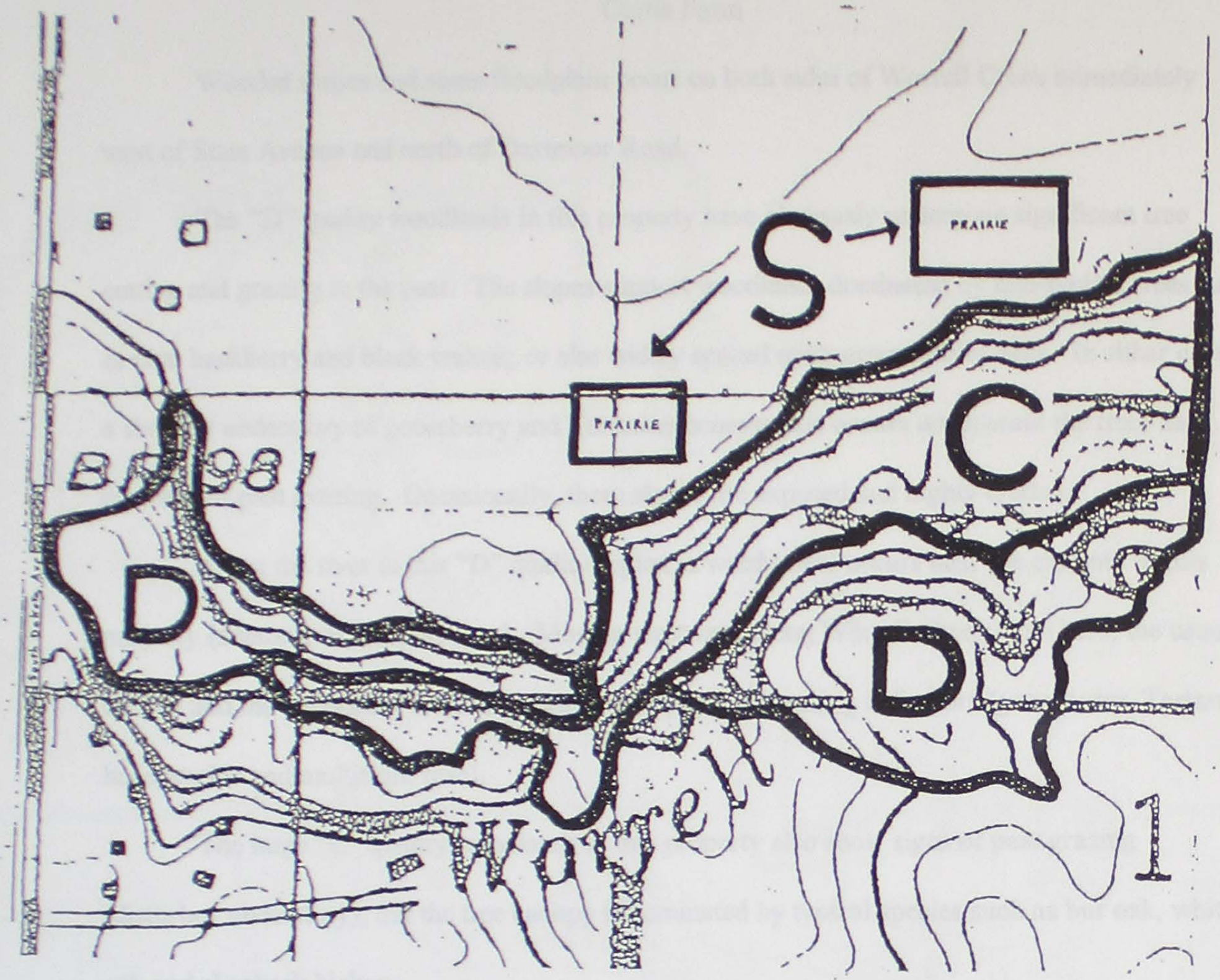
Worrell Creek

Wooded slopes and pasture occur on either side of Worrell Creek between South Dakota Avenue and that property described as the "Curtis Farm" in this report.

All of the woodlands on these slopes have been altered in the past. The canopies of the better quality woodlands (indicated as "C" quality on this map) are dominated by naturally occurring bur oak, but the understory contains many nontypical shrubs such as gooseberry, elm and introduced honeysuckle. Heavy past grazing is indicated by the dominance of these shrubs.

The "D" quality woodlands in the Worrell Creek map are similar to those just described but have even less natural quality. Here, the canopies contain many non-typical trees in addition to bur oak, such as green ash, black locust and American elm. Again, heavy past grazing is indicated.

Two reconstructed prairies occur just north of Worrell Creek. These contain many native prairie species which were planted here, hence the designation of these prairies as special resources ("S").



WORRELL CREEK

Curtis Farm

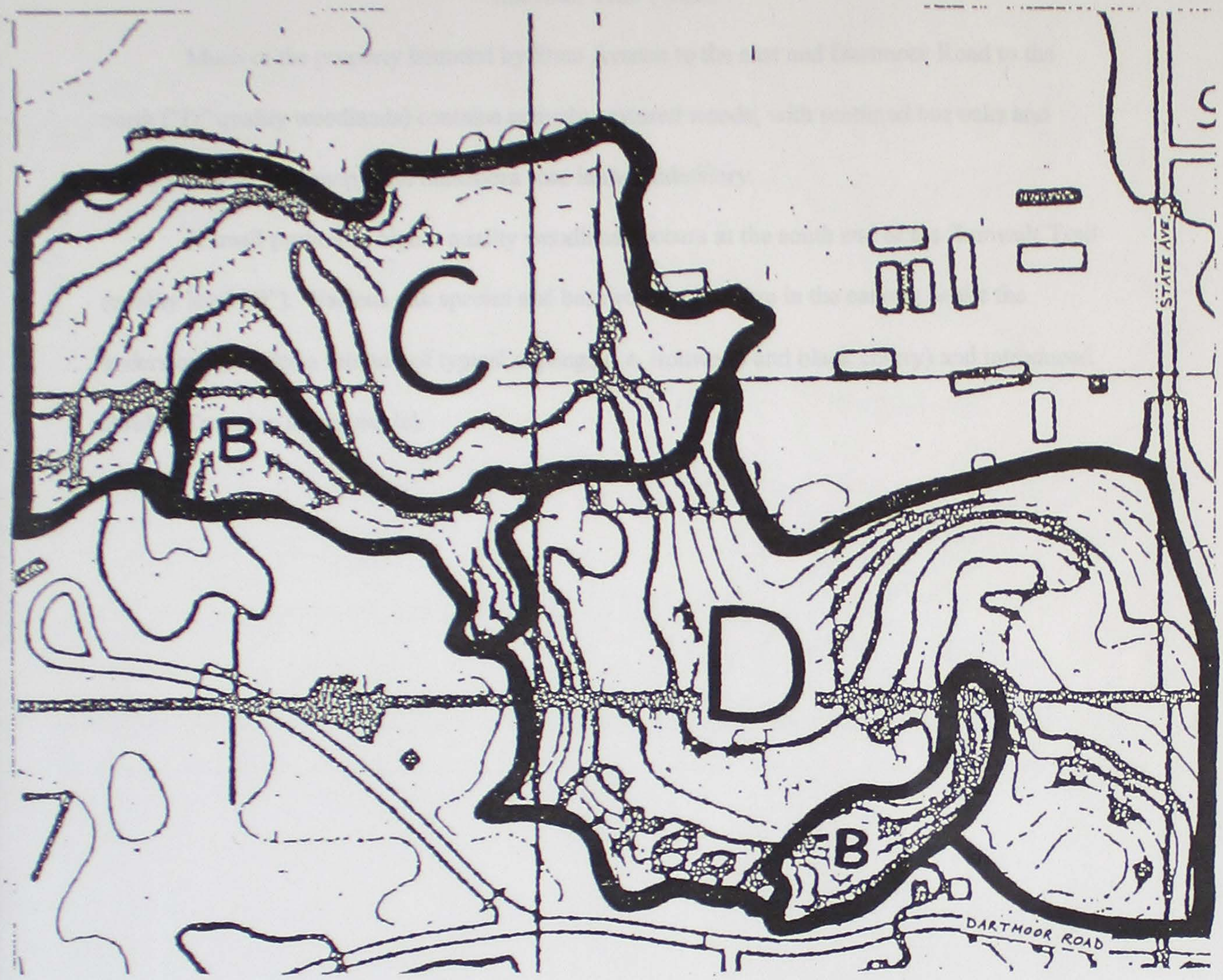
Wooded slopes and some floodplain occur on both sides of Worrell Creek immediately west of State Avenue and north of Dartmoor Road.

The "D" quality woodlands in this property have obviously undergone significant tree cutting and grazing in the past. The slopes support woodlands dominated by non-typical trees such as elm, hackberry and black walnut; or else widely spaced open-grown white oaks. In either case, a shrubby understory of gooseberry and Tartarian honeysuckle occurs underneath the trees as evidence of past grazing. Occasionally, these slopes are exposed and highly eroded.

Along the river in this "D" quality region, a weedy field occurs near the east end of this property (adjacent to State Avenue). Moving westward along Worrell Creek from here, the canopy is open and the understory is almost entirely composed of grazing indicators (gooseberry, Tartarian honeysuckle and multiflora rose).

The large "C" quality woodlands in this property also show signs of past grazing (disturbed understory), but the tree canopy is dominated by typical species such as bur oak, white oak and shagbark hickory.

Several small "B" quality woodlands occur along slopes on the south side of Worrell Creek in this property. Here, the canopies contain expected trees such as oak and maple species, while naturally occurring ironwood is a conspicuous component of the understory.

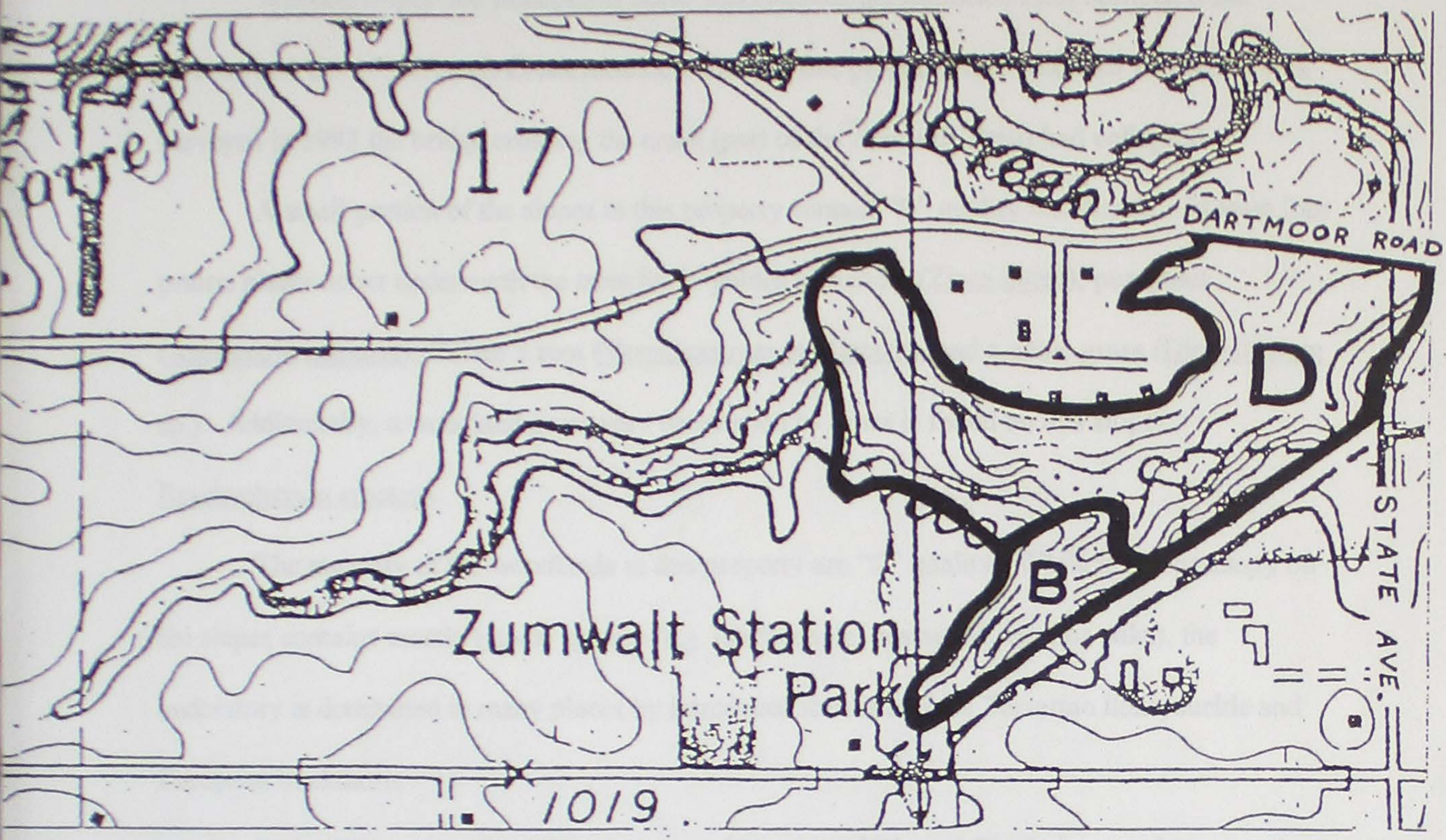


CURTIS FARM

Zumwalt Trail (West)

Much of the property bounded by State Avenue to the east and Dartmoor Road to the north ("D" quality woodlands) contains actively pastured woods, with scattered bur oaks and honey locust in the canopy and multiflora rose in the understory.

A small portion of higher quality woodlands occurs at the south end of the Zumwalt Trail (quality level "B"). Various oak species and basswood occur here in the canopy, while the understory contains a mixture of typical saplings (i.e. ironwood and black cherry) and introduced shrubs (Tartarian honeysuckle).



ZUMWALT TRAIL (WEST)

Zumwalt Trail (East)

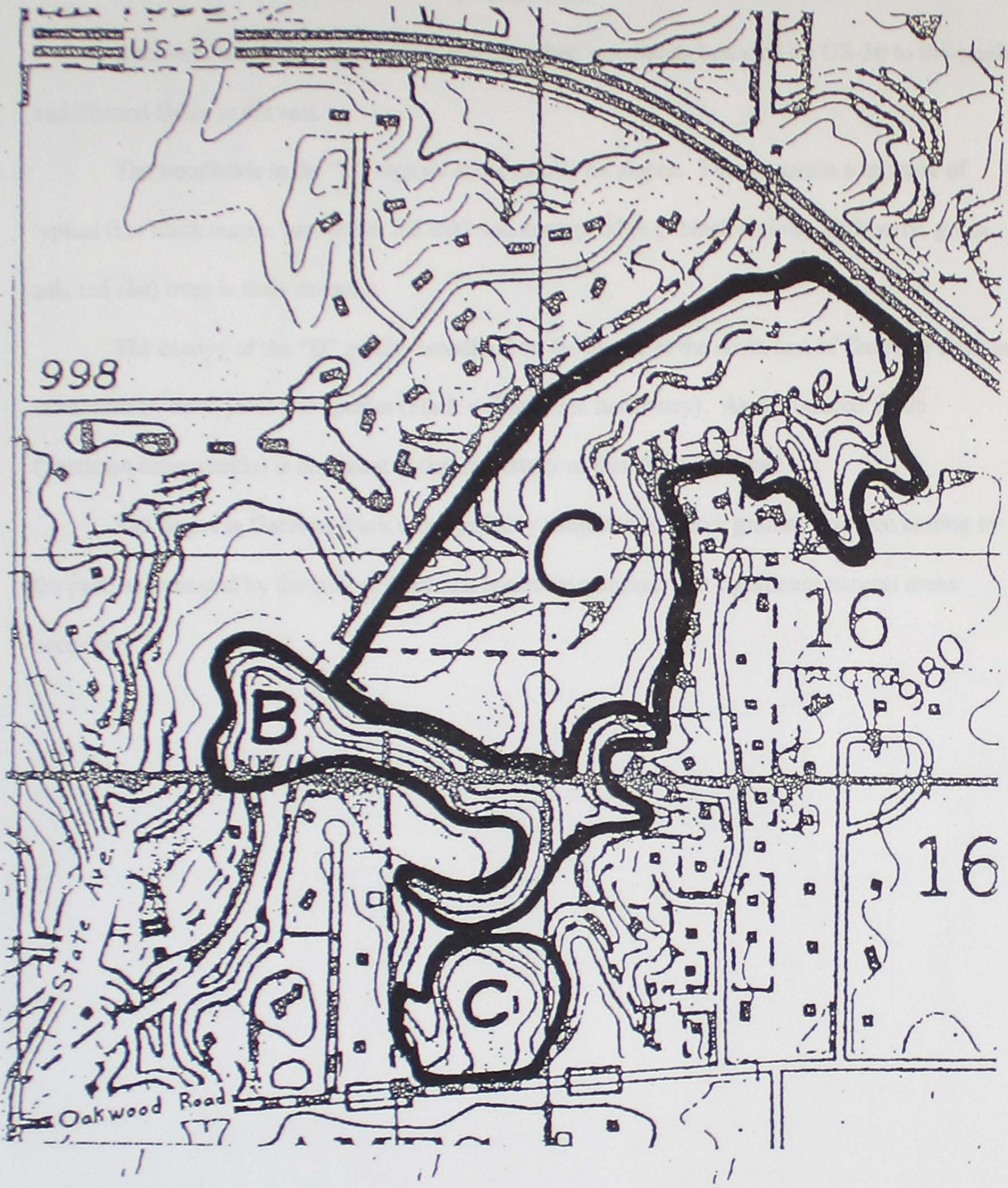
Wooded slopes and floodplains occur just south of the Zumwalt Trail between State Avenue and US-30. Worrell Creek meanders through this property, and when the vegetation was surveyed in 1993 the bridge crossing the creek (part of the Zumwalt Trail) had collapsed.

A small portion of the slopes in this property contain "B" quality woodlands. At least four prairie plants occur underneath the trees here: golden alexander (Zizea aurea), pussytoes (Antennaria neglecta), Culver's root (Veronicastrum virginicum), and a panic grass (Dicanthelium sp.). Additionally, a woodland grass very uncommon to Ames is found on this slope: Brachyeletrum erectum.

The majority of the woodlands in this property are "C" quality. While the tree canopy on the slopes contains mostly typical species (e.g. black maple, basswood, various oaks), the understory is dominated in many places by introduced shrubs such as Tartarian honeysuckle and European buckthorn.

In the "C" quality floodplain forest on either side of Worrell Creek, expected tree species occur in the canopy (cottonwood, black willow, elm, hackberry, green ash, black walnut) but the understory likewise possesses a preponderance of Tartarian honeysuckle. A very uncommon woodland herb occurs in this floodplain: green dragon (Arisaema dracontium).

In summary, while some of the slopes contain some natural character (particularly those just south and east of the collapsed bridge), the majority of the woodlands along the Zumwalt Trail show signs of past disturbance (such as grazing).



ZUMWALT TRAIL (EAST)

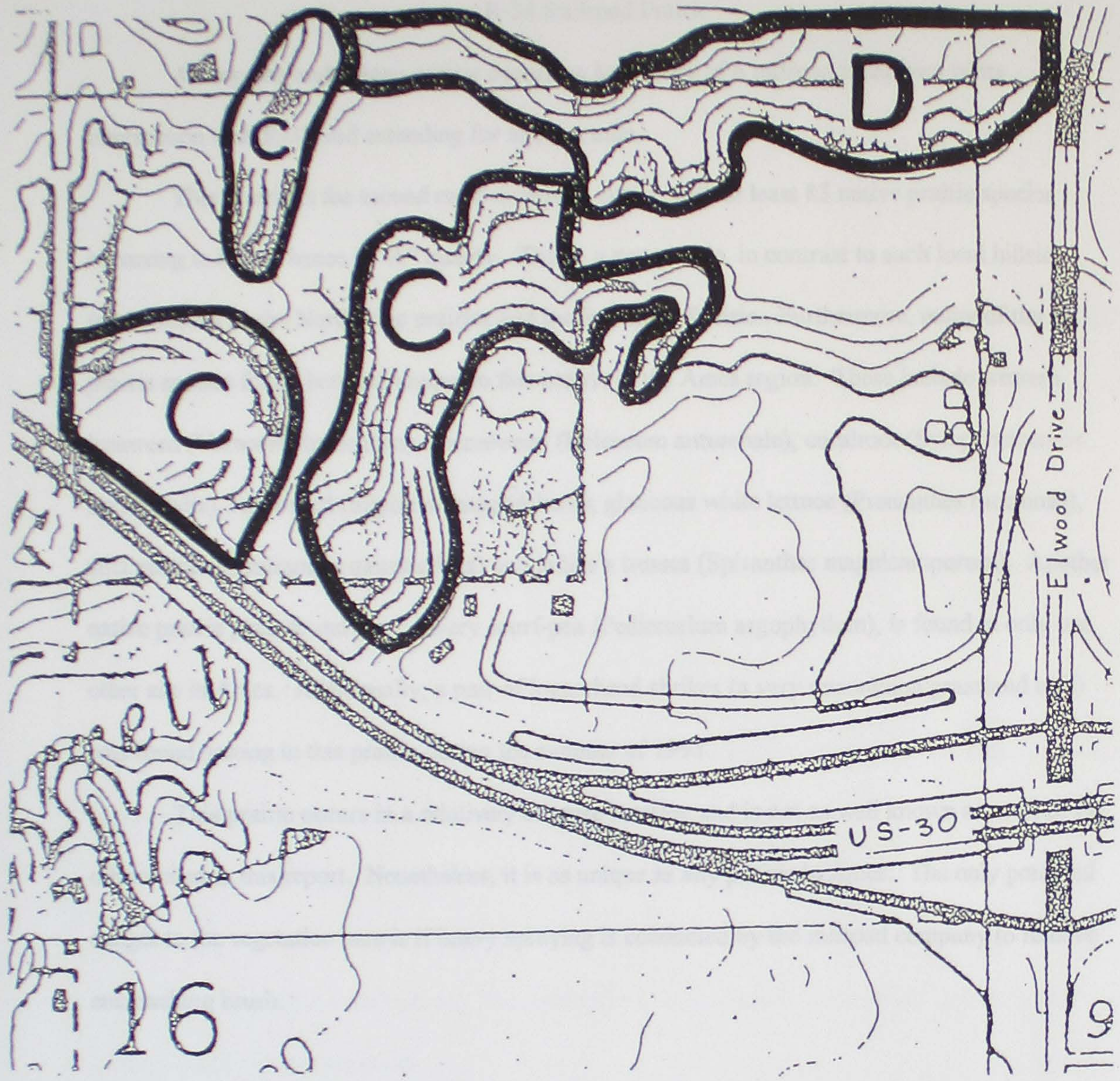
Gateway Park

Gateway Park is an area of fields and disturbed woodlands bounded by US-30 to the south and Elwood Drive to the east.

The woodlands in the "C" regions occur mostly on slopes. These contain a mixture of typical (i.e. black maple, basswood, red oak) and nontypical (e.g. black walnut, hackberry, green ash, red elm) trees in their canopies.

The canopy of the "D" quality woodland on the slopes at the north end of Gateway Park is dominated by nontypical tree species (black walnut, elm, hackberry). An introduced shrub (Tartarian honeysuckle) is dominant in the understory of this "D" woodland.

The slopes in Gateway Park were probably subjected to heavy grazing and tree cutting in the past, as indicated by the lack of dominant natural vegetation. No significant natural areas occur here.



GATEWAY PARK

R-38 Railroad Prairie

A very rich and unique prairie occurs on both sides of a railroad track west of its intersection with R-38 and extending for about a mile.

This prairie is the second most diverse in Ames, with at least 83 native prairie species occurring in it, and hence is "A" quality. This is a wet prairie, in contrast to such local hillside (dry) prairies as the Northridge prairies and the Raymond Prairie. Furthermore, many of the 83 prairie species found here are unique to this prairie in the Ames region. These include western ironweed (Vernonia fasciculata), sneezeweed (Heleneum autumnale), coralroot (Symphoricarpos occidentalis), rosinweed (Silphium integrifolium), glaucous white lettuce (Prenanthes racemosa), stiff gentian (Gentianella quinquefolia) and ladies's tresses (Spiranthes magnicamporum). Another native prairie plant found here, silvery scurf-pea (Pediomelum argophyllum), is found in only one other site in Ames. Additionally, a pair of loggerhead shrikes (a very uncommon grassland bird) was found nesting in this prairie during the summer of 1993.

This prairie occurs in a relatively obscure location and is not as well known as most of the others cited in this report. Nonetheless, it is as unique as any prairie in Ames. The only potential danger to the vegetation here is if heavy spraying is conducted by the railroad company to remove encroaching brush.

Clear Creek (West)

Wooded slopes overlook Clear Creek on both sides as it flows toward North Dakota Avenue from the west.

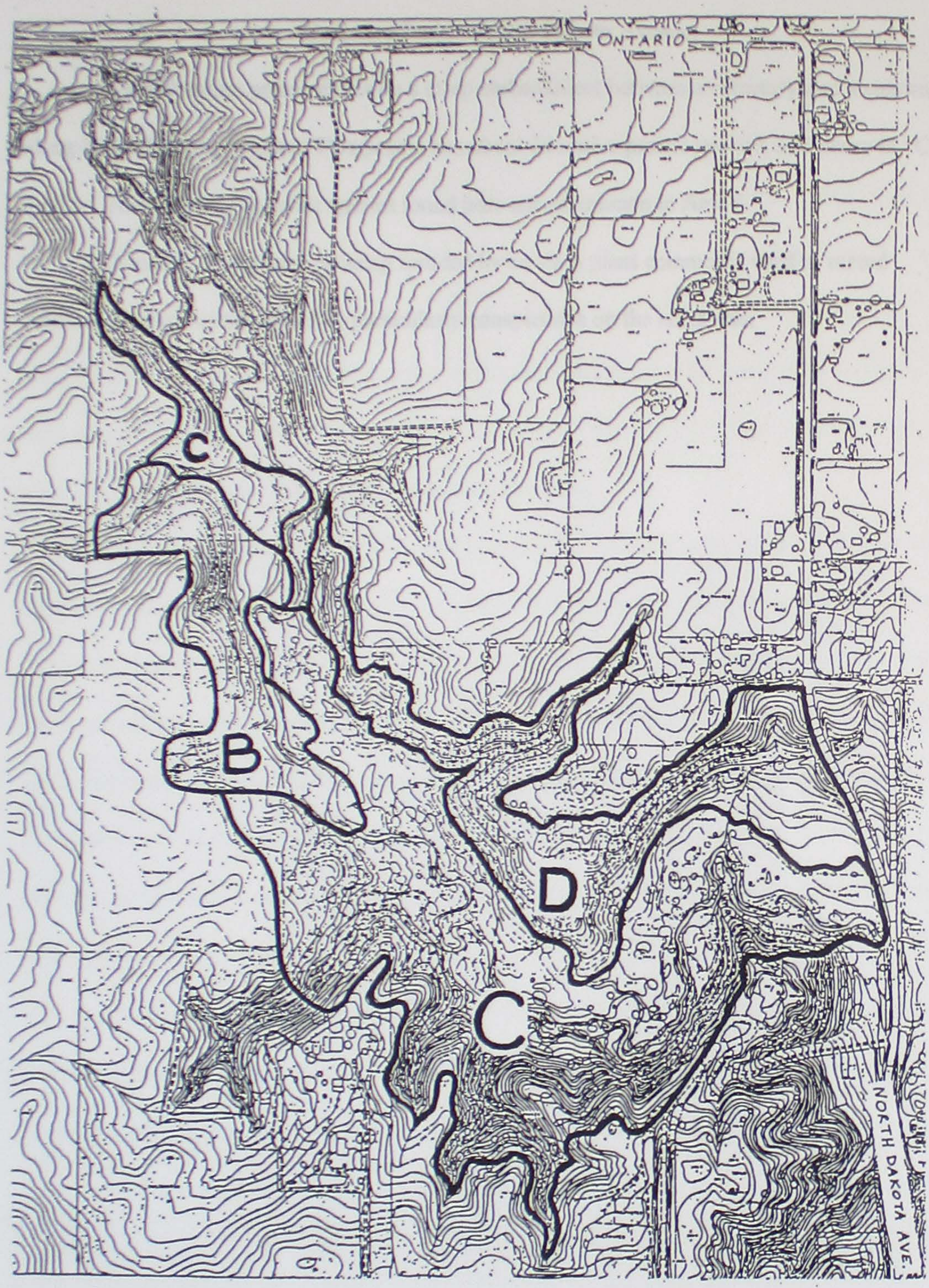
The vast majority of the wooded slopes south of Clear Creek are "C" quality. The canopy of these woodlands is made up of mostly typical trees such as red oak, bur oak and black maple, but the understory is completely dominated by non-typical species (i.e. Tartarian honeysuckle, elm, hackberry).

The floodplain in the largest "C" quality region possesses all typical trees (e.g. American elm, black willow, black walnut, cottonwood, hackberry, honey locust) in the canopy, but the understory is almost completely overgrown with an introduced shrub (i.e. Tartarian honeysuckle). Species diversity in both canopy and understory is average to low in this floodplain.

The "D" woodland on the slopes north of the creek possesses almost no trees, saplings and shrubs typical of wooded slopes. Apparently, the native trees were all removed in the past thus allowing the floodplain vegetation to creep up the slope in its place.

A small "B" quality woodland exists on the south side of the river. Basswood, red oak and bur oak are the dominant trees in the canopy here, while ironwood and basswood are the most common saplings in the understory. The understory is overgrown in most places, lowering the overall quality of the woodland.

A large population of an attractive wildflower, blue cohosh (Caulophyllum thalictroides) is found in the "B" region of this map, the only place in Ames where it was discovered. Growing with it is a very uncommon woodland grass, Brachyeletrum erectrum (one of only two populations encountered during this inventory).



CLEAR CREEK (WEST)

Cemetary Prairie (North Dakota Avenue)

A small native prairie exists on a steep embankment between a cemetary and a sidewalk along North Dakota Avenue. This prairie has about 16 native prairie species, and hence is "C" quality. None of the 16 prairie species found here are uncommon in Ames.

Currently, this prairie is being invaded by an alien plant commonly used to reseed roadsides (crown vetch), which is particularly conspicuous on the north end.

Munn Woods

One of the highest quality woodlands in Ames, Munn Woods, occurs along Clear Creek on the west side of town. However, the adjacent wooded tracts vary widely in quality.

The bulk of Munn Woods is in the "A" quality region shown on the map. The ridgetop supports a very mature canopy of dominant white and red oak, while ironwood, ash and basswood saplings are the conspicuous components of the understory here. The slopes within this "A" quality region have dominant black maple, red oak, and basswood in the canopy, while ironwood and basswood saplings are conspicuous in the understory. This tract has high diversity of expected trees, saplings and shrubs throughout, hence its high rating.

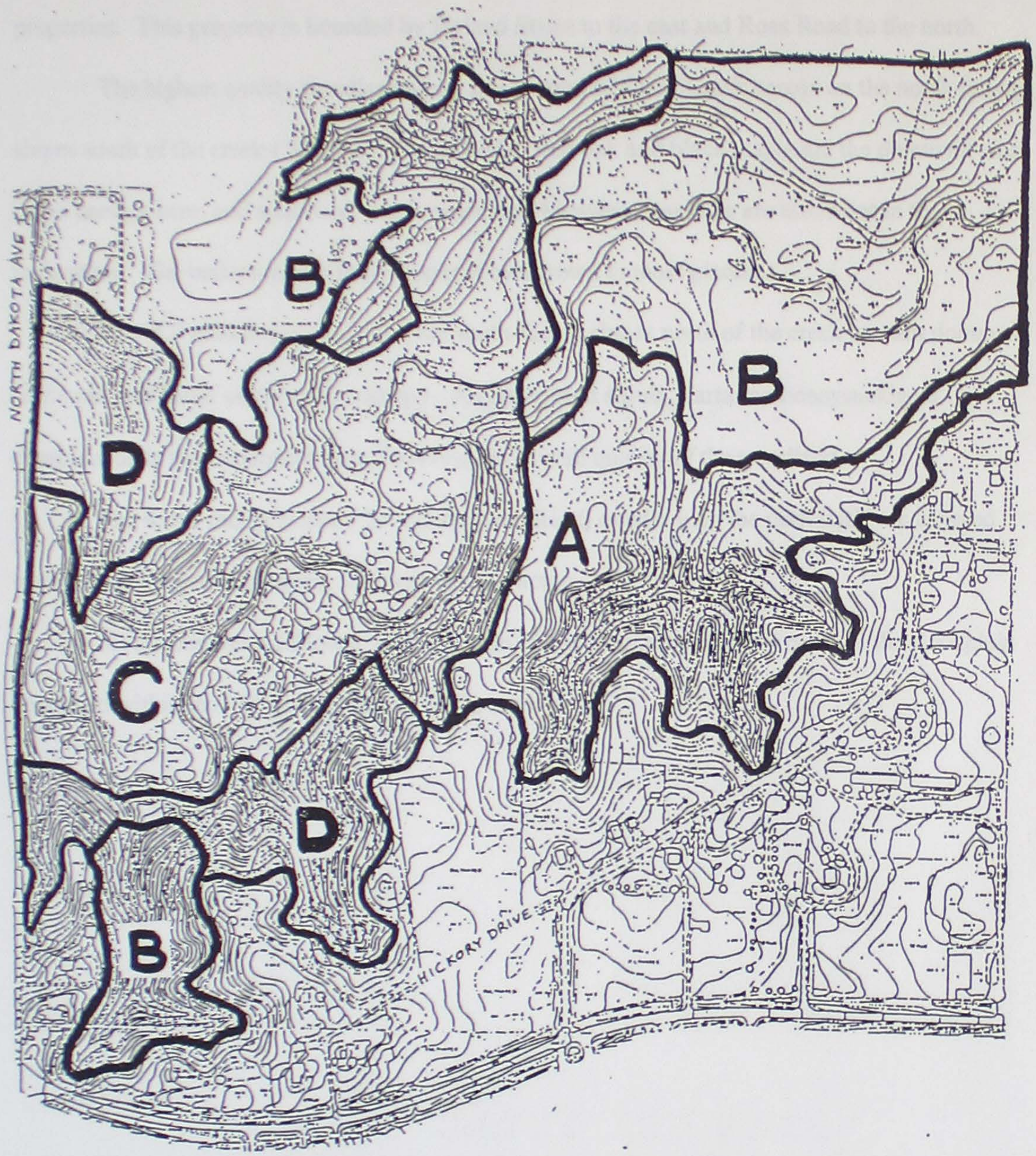
The large bottomland in the "B" quality region immediately north of that just described has a very mature floodplain forest, with vegetation resembling that much more commonly found on slopes. Trees such as red oak, black maple and basswood are just as frequent here as more conventional bottomland tree species (e.g. hackberry, elm and black walnut). The presence of oak, black maple and basswood in the canopy of this floodplain forest probably represents natural succession and hence does not lower the overall quality of the forest. However, Tartarian honeysuckle (an introduced shrub) is very conspicuous in the understory here, which does lower the rating given to it.

The dry, south-facing slopes in this same large "B" quality region have many white and red oaks in the canopy, as expected, and typical saplings such as black maple, ironwood and basswood are found in the understory. However, the understory is overgrown in many places, while overall species diversity is not as high as that found in the "A" quality woodland described above.

The large "C" quality region shown on the map is an area that has obviously been disturbed in the past. The slopes possess non-typical species in both canopy (e.g. cottonwood, honey locust, black walnut) and understory (Tartarian honeysuckle). The floodplain within this

tract has low species diversity and an abundance of Tartarian honeysuckle. The "D" quality regions have almost no naturally occurring vegetation in them.

Several uncommon woodland wildflowers can be found in Munn Woods in the late summer and fall. These are an orchid (fall coralroot: Corallorhiza odontorhiza) and Indian pipe (Monotropa uniflora). Furthermore, green dragon (Arisaema dracontium) occurs in the "C" quality floodplain in large numbers.



MUNN WOODS

Emma McCarthy Lee Park

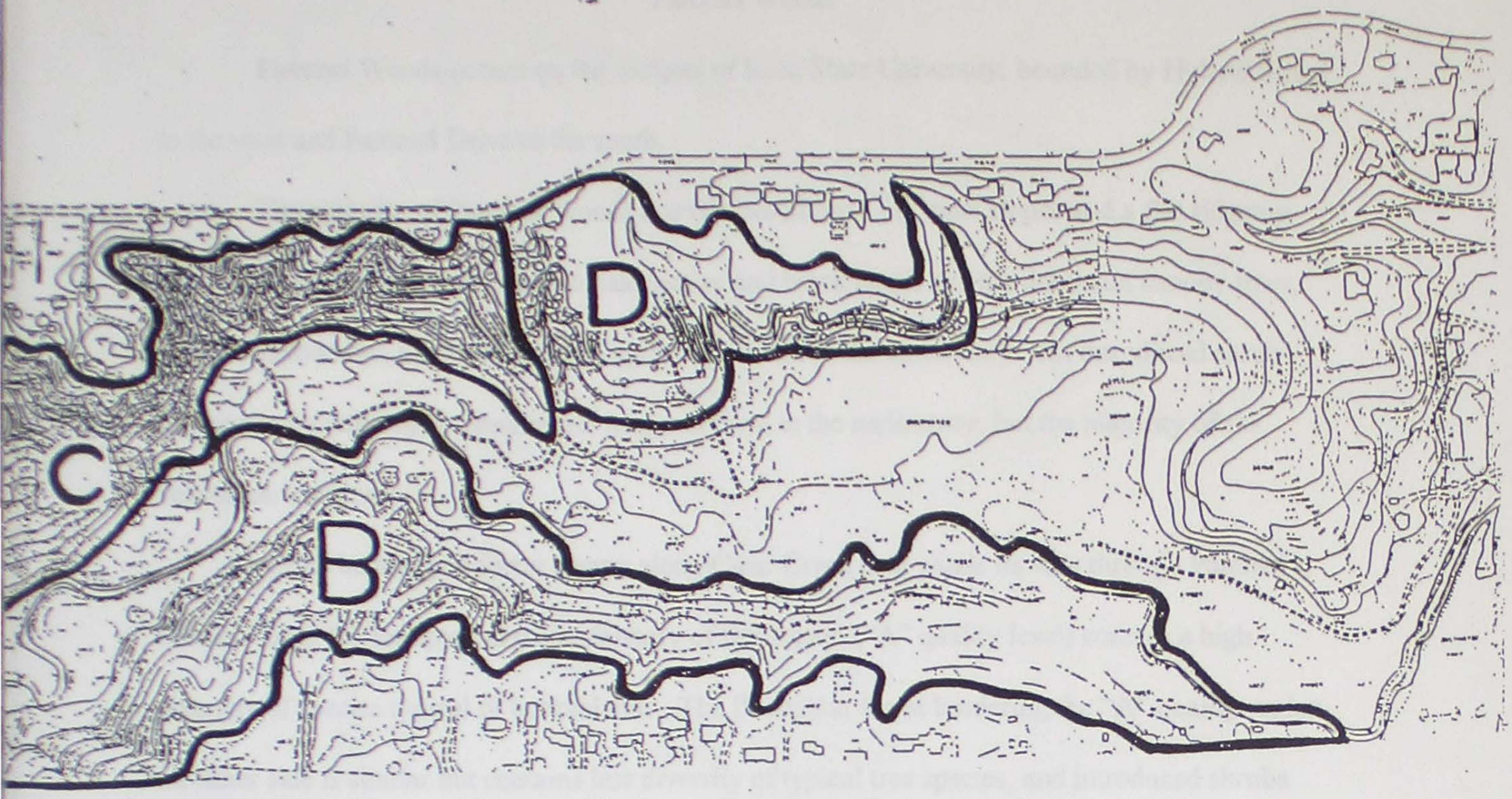
Wooded slopes occur along Clear Creek in Emma McCarthy Lee Park and adjoining properties. This property is bounded by Hyland Street to the east and Ross Road to the north.

The highest quality woodland along this section of Clear Creek occurs on the north-facing slopes south of the creek ("B" quality woodland). Red oak and black maple are the dominant trees in the canopy here, and ironwood, black maple and basswood saplings are dominant in the understory. The understory on these slopes is overgrown in most places.

The "C" quality woodlands on the south-facing slopes north of the creek contain dominant white oak and black maple in the canopy. An introduced shrub, Tartarian honeysuckle, is conspicuous in the understory here, lowering the overall quality of the woodland.

The south-facing slopes ("D" quality woodland) overlooking the park itself are covered with scrubby vegetation having little natural character.

An uncommon wildflower, green dragon (Arisaema dracontium), occurs in the floodplain contained within the "B" quality region on the map.



EMMA MC'CARTHY LEE PARK

Pammel Woods

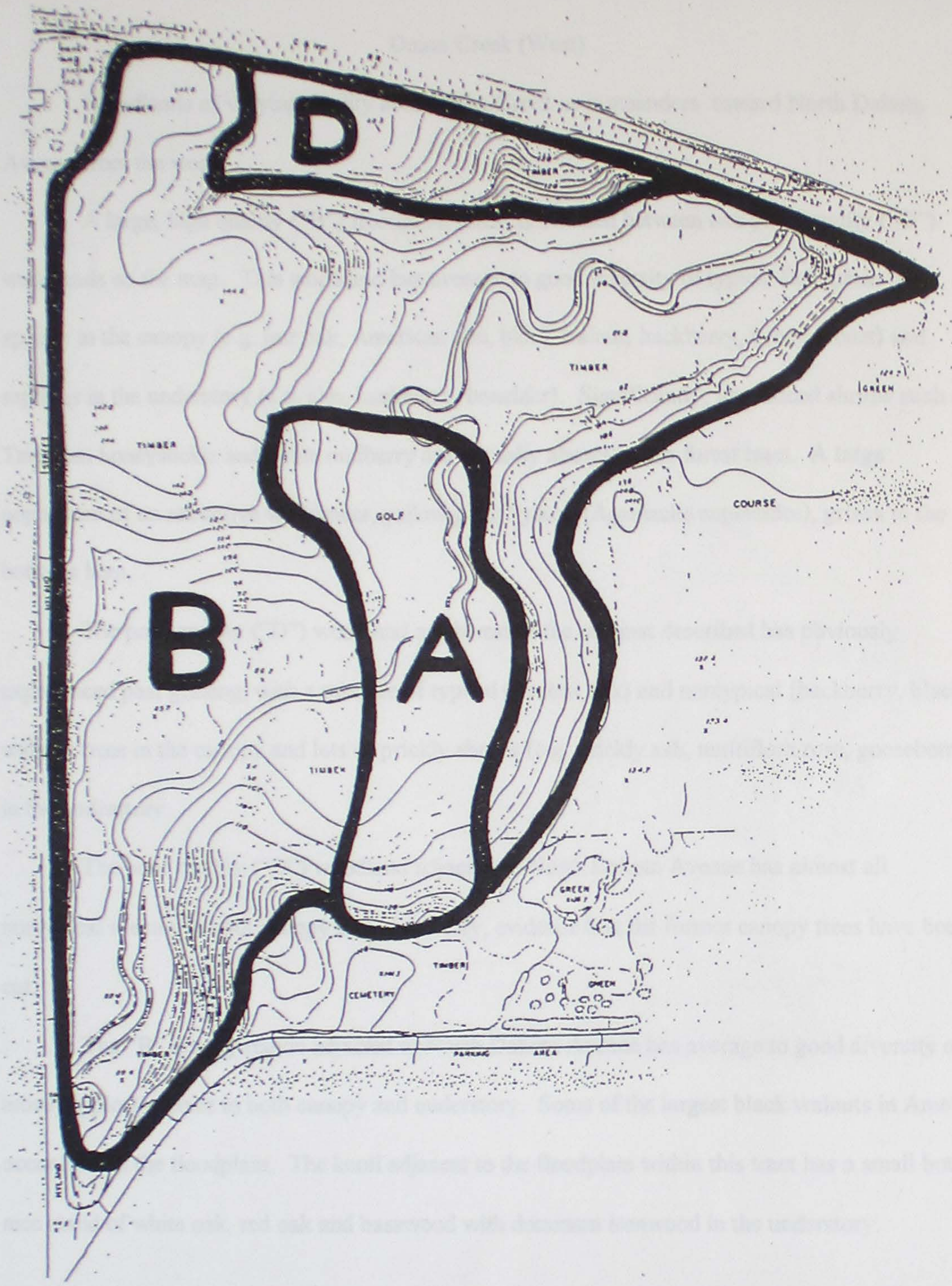
Pammel Woods occurs on the campus of Iowa State University, bounded by Hyland Street to the west and Pammel Drive to the south.

The majority of Pammel Woods is a rich woodland. On most slopes and a flat ridgetop located in "B" level regions, various oak species and black maple are the dominant canopy trees, while ironwood and black maple saplings are dominant in the understory. An introduced shrub (European buckthorn) is conspicuous here and there in the understory, but the majority of the vegetation is natural.

A rich bottomland forest occurs along Clear Creek as it winds its way through Pammel Woods. Both the canopy and the understory of this region ("A" quality level) contain a high diversity of species typical of bottomlands. The floodplain forest bordering the "A" quality region on either side is similar but contains less diversity of typical tree species, and introduced shrubs (i.e. white mulberry, Tartarian honeysuckle, European buckthorn) occasionally become dominant in the understory.

A small strip of unnatural vegetation ("D" quality level) occurs on the north end of Pammel Woods, bordering the railroad. An introduced tree (black locust) and shrub (European buckthorn) are dominant in the woodland here.

The majority of Pammel Woods contains a rich carpet of native wildflowers from spring through fall, and it serves as a laboratory for many botany classes at ISU. An uncommon plant, green dragon (Arisaema dracontium), is among the many wildflowers found in Pammel Woods.



PAMMEL WOODS

Onion Creek (West)

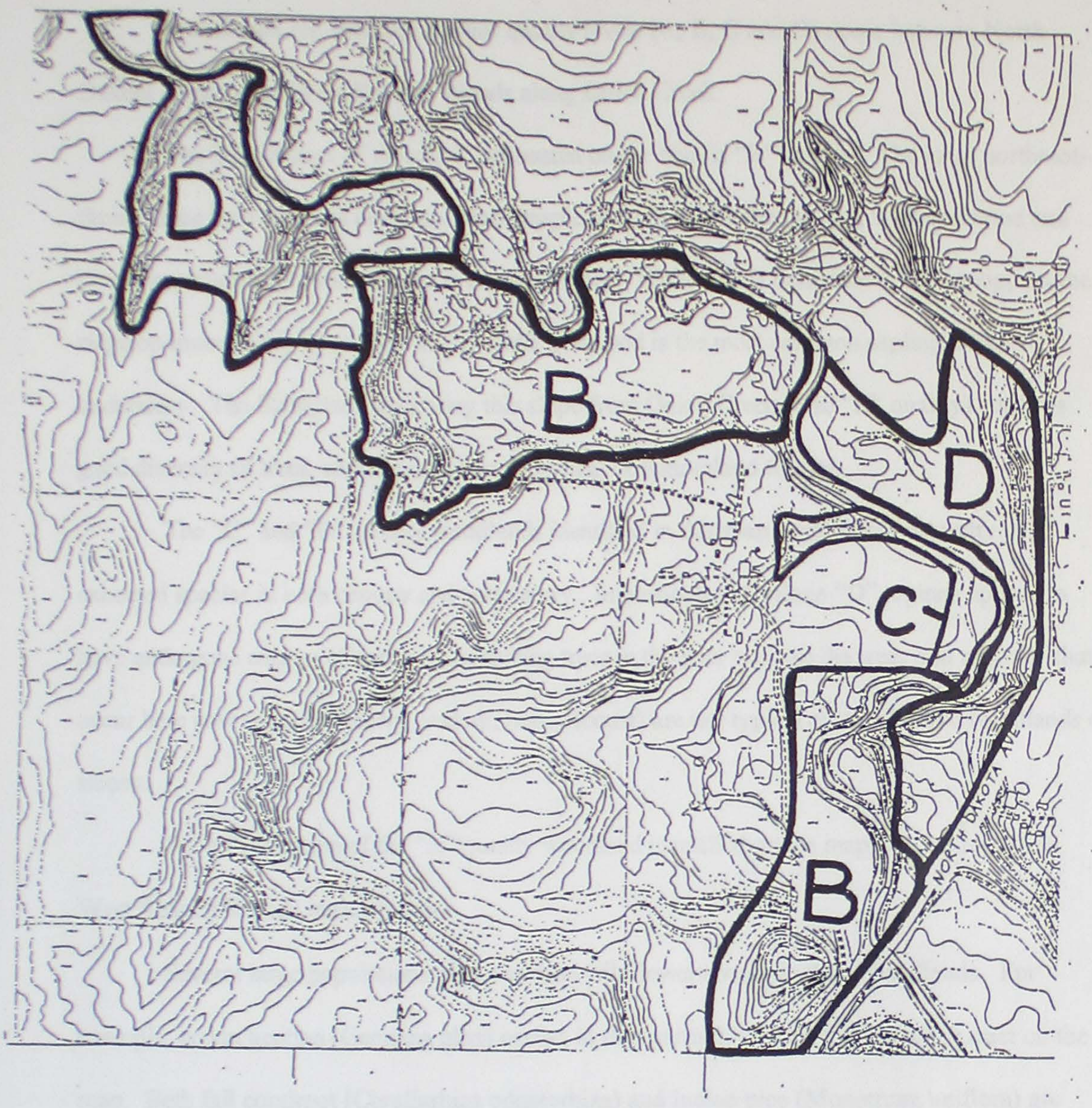
Woodlands of varying quality abut Onion Creek as it meanders toward North Dakota Avenue from the west.

A large, high quality ("B") floodplain forest is situated between two poor quality ("D") woodlands on the map. This woodland has average to good diversity of typical floodplain tree species in the canopy (e.g. bur oak, American elm, black walnut, hackberry, honey locust) and saplings in the understory (e.g. elm, hackberry, boxelder). Significantly, introduced shrubs such as Tartarian honeysuckle and white mulberry are virtually absent in this forest tract. A large population of an attractive wildflower, yellow giant hyssop (Agastache nepetoides), grows in the bottoms here.

The poor quality ("D") woodland northwest of the one just described has obviously experienced past grazing, with a mixture of typical (i.e. bur oak) and nontypical (hackberry, black walnut) trees in the canopy and lots of prickly shrubs (e.g. prickly ash, multiflora rose, gooseberry) in the understory.

The poor quality ("D") woodland adjacent to North Dakota Avenue has almost all nontypical species in both canopy and understory, evidence that the former canopy trees have been cut.

The "B" quality region adjacent to North Dakota Avenue has average to good diversity of mostly typical species in both canopy and understory. Some of the largest black walnuts in Ames occur here in the floodplain. The knoll adjacent to the floodplain within this tract has a small but nice stand of white oak, red oak and basswood with dominant ironwood in the understory.



ONION CREEK (WEST)

Onion Creek (East)

Woodlands representing all four quality levels (A, B, C and D) occur between North Dakota Avenue and West Reactor Woods along Onion Creek.

The largest tract of woodland delineated on the map is "B" quality. The long, northeast-facing slope here contains dominant black maple and red oak in the canopy, with ironwood and black maple saplings predominant in the understory. White oak is dominant in the canopy on the ridgetop immediately above this slope, while ironwood is the most common sapling in the understory. The floodplain separating this slope from Onion Creek (also "B" quality) contains good diversity of trees, saplings and shrubs typical of bottomland forests.

The "C" and "D" quality woodlands identified in this map contain less diversity of expected species in both canopy and understory. In particular, the three "D" regions appear to have undergone cutting of naturally occurring trees in the past because the trees and saplings that occur here now (elm, hackberry, walnut, honey locust) are not typical of undisturbed woodlands on slopes.

For a description of the "A" quality woodland identified on the map, see the report on West Reactor Woods in this report.

Several large populations of uncommon wildflowers occur in these woodlands. For example, cream gentian (Gentiana alba) occurs in the central L-shaped ("C" quality) tract on the map. Both fall coralroot (Corallarhiza odontorhiza) and Indian pipe (Monotropa uniflora) are frequent on the white oak-dominated ridgetop in the "B" quality tract.

ONION CREEK (EAST)

West Reactor Woods

Along with East Reactor Woods, West Reactors Woods contains the largest amount of high quality woodland in Ames.

The canopy of wooded ridgetops and slopes contains dominant white oak, red oak and black maple in "A" and "B" quality regions, while ironwood is the dominant sapling in the understory here. A small stand of big-toothed aspen occurs on top of a knoll in the largest "A" quality region in West Reactor Woods, one of the few such stands in Ames.

The bottomland forest in "A" and "B" quality areas is some of the richest in Ames. Both the canopy and understory here are very diverse in species typical of floodplains. Several large sycamores (uncommon in central Iowa) occur in the bottomland forest of the largest "B" quality region (north end of West Reactor Woods).

More uncommon wildflowers occur in West and East Reactor Woods than any other woodland in Ames. For example, yellow pimpernel (Taenidia integerrima) is found only on high, dry slopes in the largest "A" quality woodland in West Reactor Woods. Showy orchis (Galearis spectabalis), a colorful orchid, was found only in West Reactor Woods during this inventory. The slopes in the western "tail" of West Reactor Woods contain a number of prairie species in woodland openings, including prairie lousewort (Pedicularis canadensis), alumroot (Heuchera richardsonii) and Culver's root (Veronicastrum virginicum). Other uncommon woodland herbs found in West Reactor Woods include green dragon (Arisaema dracontium), cream gentian (Gentiana alba), ginseng (Panax quinquefolia), red baneberry (Actaea rubra), spikenard (Aralia racemosa), lady fern (Athyrium felix-femina), and a number of sedges (Carex oligosperma, C. Jamesii, C. hirtifolia, and C. sparganioides).

During the first full season of field work for this inventory (1992), a pair of cerulean warblers was found (June) in the floodplain of the largest "A" quality region. This is the first known occurrence of this bird species in Story County.

WEST REACTOR WOODS

East Reactor Woods

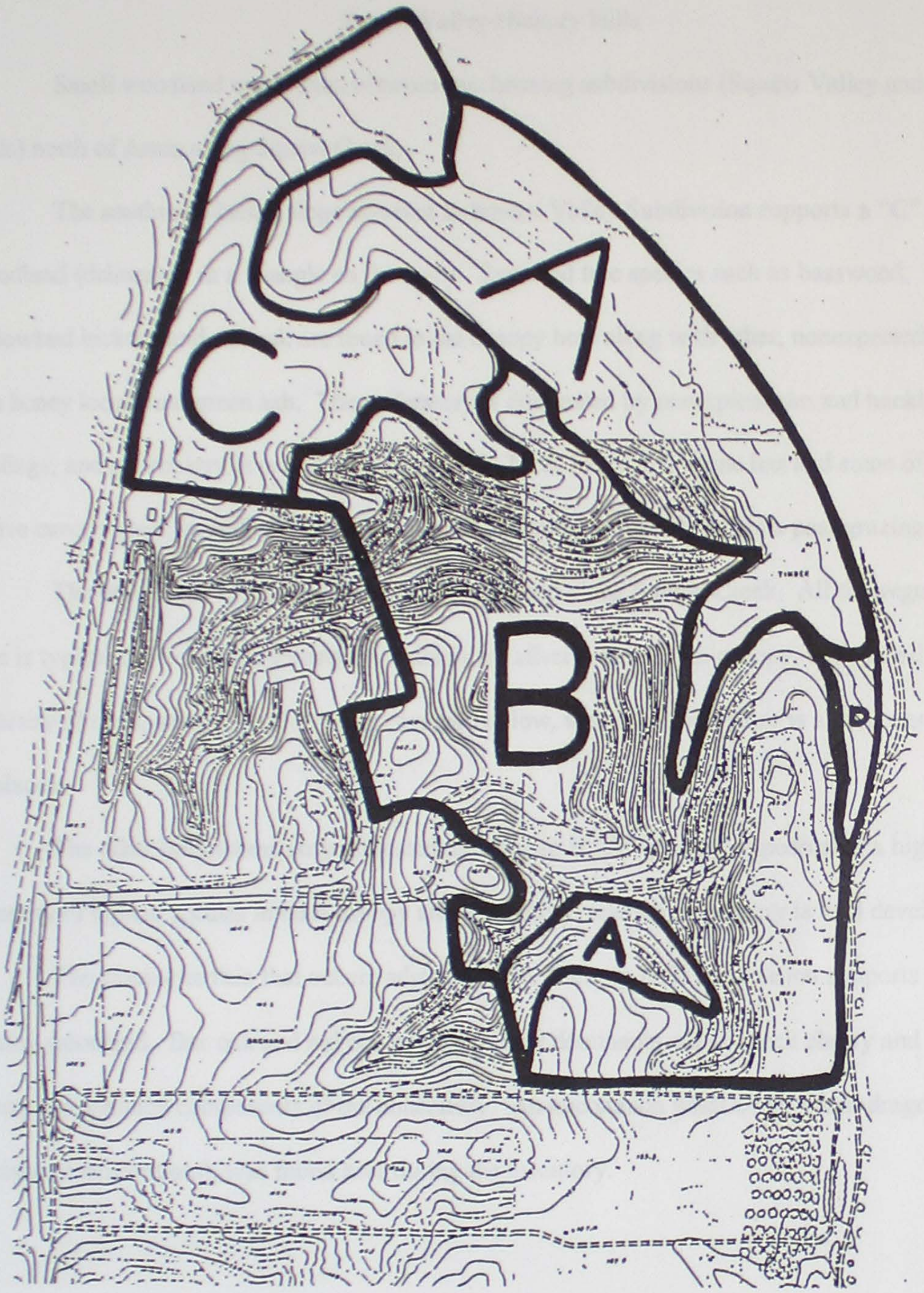
East Reactor Woods (often referred to as "YMCA Woods") contains some of the highest quality woodlands in Ames. The area is characterized by highly dissected topography, with a floodplain on the northeast border of the park.

Natural vegetation is found in all "A" and "B" quality regions. White oak, red oak and shagbark hickory are the dominant canopy trees on ridgetops and dry south-facing slopes, while black maple, red oak and basswood are the dominant trees on moist north and east-facing slopes. Ironwood is the dominant sapling in the understory of almost all the woodlands found on ridgetops and slopes. In many places (particularly the "B" quality regions) the ironwood provides almost 100% cover of the forest floor, preventing sunlight from effectively reaching the herbs underneath. In the 'A" quality woodlands on slopes, however, this ironwood subcanopy is broken here and there by gaps that allow sunlight to penetrate to the wildflowers on the forest floor. This last characteristic is typical of high quality woodlands.

A small but rich floodplain forest occurs on the south end of the large "A" quality region. At least a dozen tree species contribute to the canopy here, and the understory likewise contains a high diversity of saplings, shrubs and vines. Significantly, almost no introduced shrubs (e.g. European honeysuckle, white mulberry, Tartarian honeysuckle) occur in the understory here, an unusual and desirable condition in an urban environment.

The "C" quality region in East Reactor Woods contains a young woodland with an overgrown understory.

East Reactor Woods, along with West Reactor Woods, contains the highest diversity of woodland wildflowers in Ames. Among these are uncommon species such as spikenard (Aralia racemosa), red baneberry (Actaea rubra) lady fern (Athyrium felix-femina) and a sedge (Carex albursina). East Reactor Woods is frequently used by Iowa State University botany classes as a laboratory in the spring and fall.



EAST REACTOR WOODS

Squaw Valley-Hickory Hills

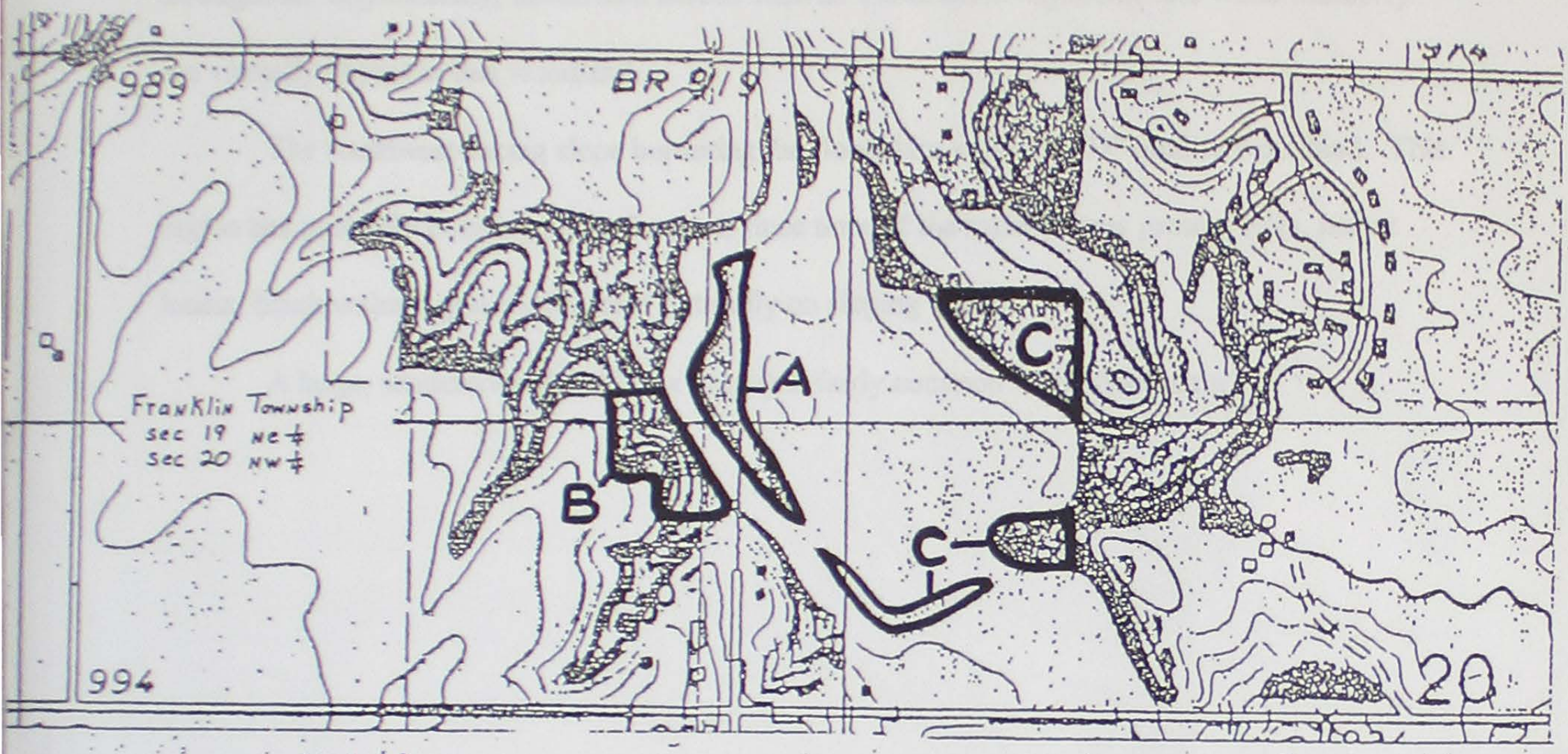
Small woodland tracts exist between two housing subdivisions (Squaw Valley and Hickory Hills) north of Ames along Squaw Creek.

The southwest-facing slope adjacent to Squaw Valley Subdivision supports a "C" quality woodland (delineated as a triangle on the map). Expected tree species such as basswood, yellowbud hickory and red oak are found in the canopy here along with other, nonexpected species like honey locust and green ash. The understory is dominated by nontypical elm and hackberry saplings, and gooseberry is prevalent here as well. Most likely, this slope has had some of its native canopy trees logged off, and the disturbed understory probably reflects past grazing activity.

The other two "C" quality strips are bottomland along Squaw Creek. All the vegetation here is typical for floodplain forests, with dominant silver maple in the canopy, but overall diversity of trees, saplings and shrubs is average to low, while the understory is almost non-existent in places.

The other bottomland strip indicated on the map is "A" quality. It possesses a high diversity of typical species in both canopy and understory, and the understory is well developed.

The sloping terrain that occurs adjacent to the Hickory Hills subdivision supports a "B" quality woodland. Bur oak and red oak are the canopy dominants, while black cherry and choke cherry are common components of the understory. An uncommon wildflower, green dragon (Arisaema dracontium), was found here during the inventory.



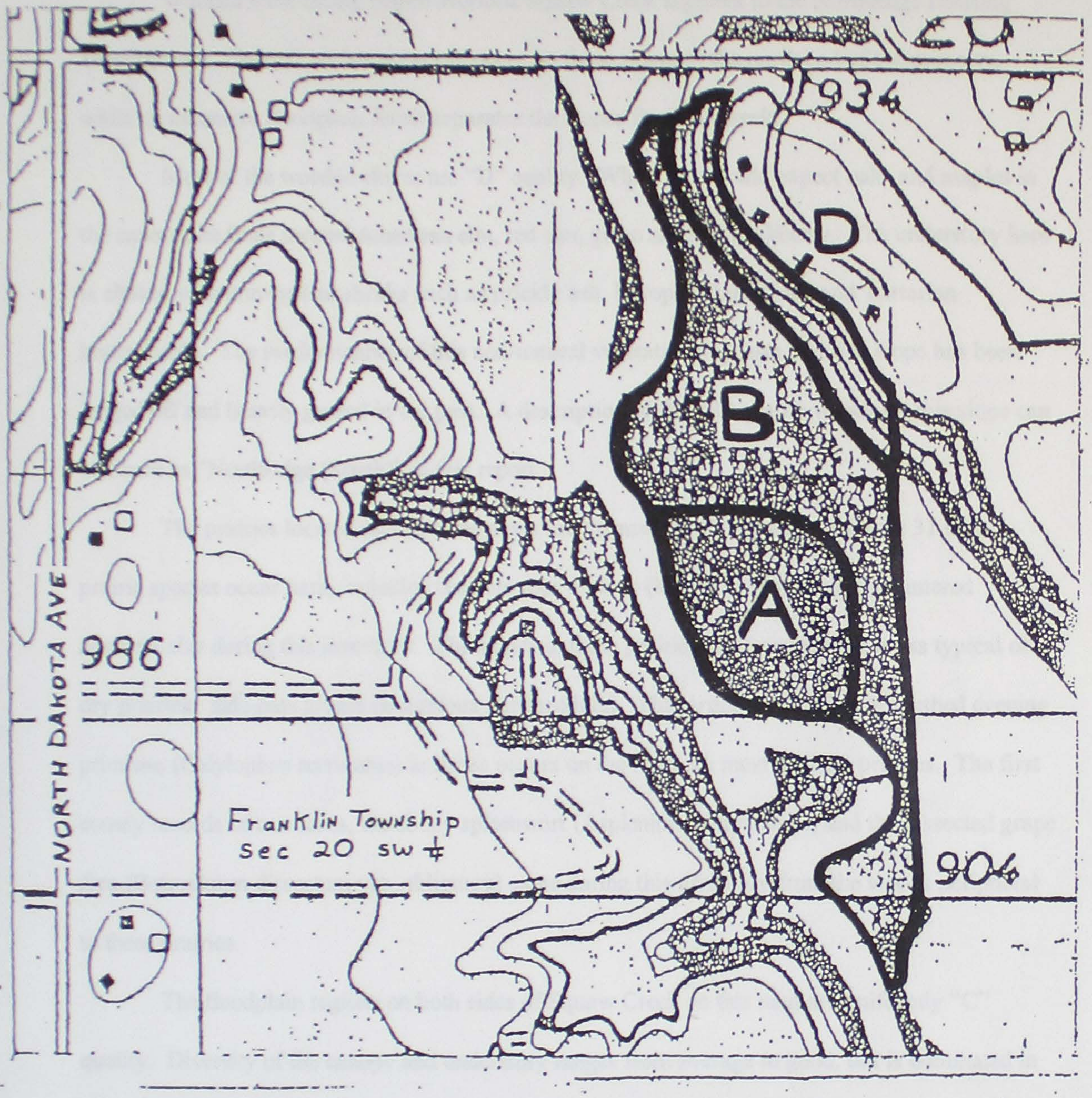
SQUAW VALLEY - HICKORY HILLS

Northwood Heights Subdivision

A large floodplain forest occurs near the Northwood Heights Subdivision on the east side of Squaw Creek. The quality of this forest varies from "B" to "A", with high diversity in both canopy and understory. The canopy contains some of the largest, most majestic silver maples to be found in the Ames area. Elm and hackberry saplings are the usual dominants in the understory throughout. Significantly, introduced shrubs such as Tartarian honeysuckle and white mulberry are virtually absent in this woodland.

The southwest-facing slope bordering the floodplain supports "D" quality woodland. This region has probably been logged in the past, since none of the canopy trees present (elm, honey locust, black walnut, green ash) occur naturally on sloping terrain.

A large, attractive sedge (Carex grayii) is fairly common in the floodplain.



NORTHWOOD HEIGHTS SUBDIVISION

Northridge (North)

Wooded west-facing slopes overlook Squaw Creek adjacent to the Northridge Housing Development. Several prairie remnants occur on these slopes at the north end of the property, while an extensive floodplain forest separates the slopes from the creek.

Most of the wooded slopes are "D" quality. Where one would expect oaks and maples in the canopy, he finds instead American elm, red elm, green ash and hackberry. The understory here is choked with non-typical shrubs such as prickly ash, European buckthorn and Tartarian honeysuckle. The predominance of this non-natural vegetation suggests that this slope has been logged off and heavily grazed in the past. A description of the "B" quality woods on this slope can be found in "Northridge (South)" in this report.

The prairies located on this same slope are themselves "B" quality. At least 31 native prairie species occur here, including the pale four o'clock (Mirabilis albidum), encountered nowhere else during this inventory. The slopes in these prairies are covered by a grass typical of dry prairies: side-oats grama (Bouteloua curtipendula). The largest population of toothed evening primrose (Calylophus serrulatus) in Ames occurs on the northern most of these prairies. The first county records of two ferns, the ebony spleenwort (Asplenium platyneuron) and the dissected grape fern (Botrychium dissectum var. obliquum) came during this inventory from the woods peripheral to these prairies.

The floodplain regions on both sides of Squaw Creek on this map are uniformly "C" quality. Diversity of the canopy and understory ranges from average to good, but is dominated in places by dense groves of hawthorn that may have been planted.

NORTHRIDGE (NORTH)

Northridge (South)

At the south end of the Northridge Housing Development, wooded west-facing slopes overlook Squaw Creek, while an extensive floodplain occurs at the confluence of Squaw Creek and Onion Creek.

The woodland occurring on the slopes is "B" quality. South of the confluence, dominant canopy trees are black maple and red oak, while bur oak is dominant at top of the high knoll at the north end of this region. Ironwood is dominant in the understory throughout the woodland on these slopes.

The floodplain forest at the confluence of the two creeks is "C" quality. Diversity is average to good in the canopy and understory, but introduced species (i.e. Eurasian buckthorn, hawthorn) are dominant in many places. This forest is quite young, and the canopy and understory are not well differentiated in some locations.

An ancient Indian burial ground occurs on top of the high knoll within the "B" quality woodland. It is indicated on the map with an "X". On the steep slopes just south of the burial ground occur scattered prairie remnants. Among the prairie plants found here is the largest population of incised puccoon (Lithospermum incisum) encountered during the inventory.

NORTHRIDGE (SOUTH)

Thirteenth Street Prairie

A prairie occurs on a gentle slope overlooking Squaw Creek on the north side of Thirteenth Street, just west of it's intersection with Stange Avenue. The Thirteenth Street Prairie was planted in the early 1980's and hence cannot be considered a natural prairie. For this reason, it is considered a special resource ("S").

About ten prairie species occur on the Thirteenth Street Prairie. A dense growth of prairie grasses such as Indian grass (Sorghastrum nutans) and little blue stem (Schizicharium scoparium) occurs in many places, along with lesser amounts of big blue stem (Andropogon gerardii) and switch grass (Panicum virgatum). However, very few forbs (prairie wildflowers) occur on the prairie.

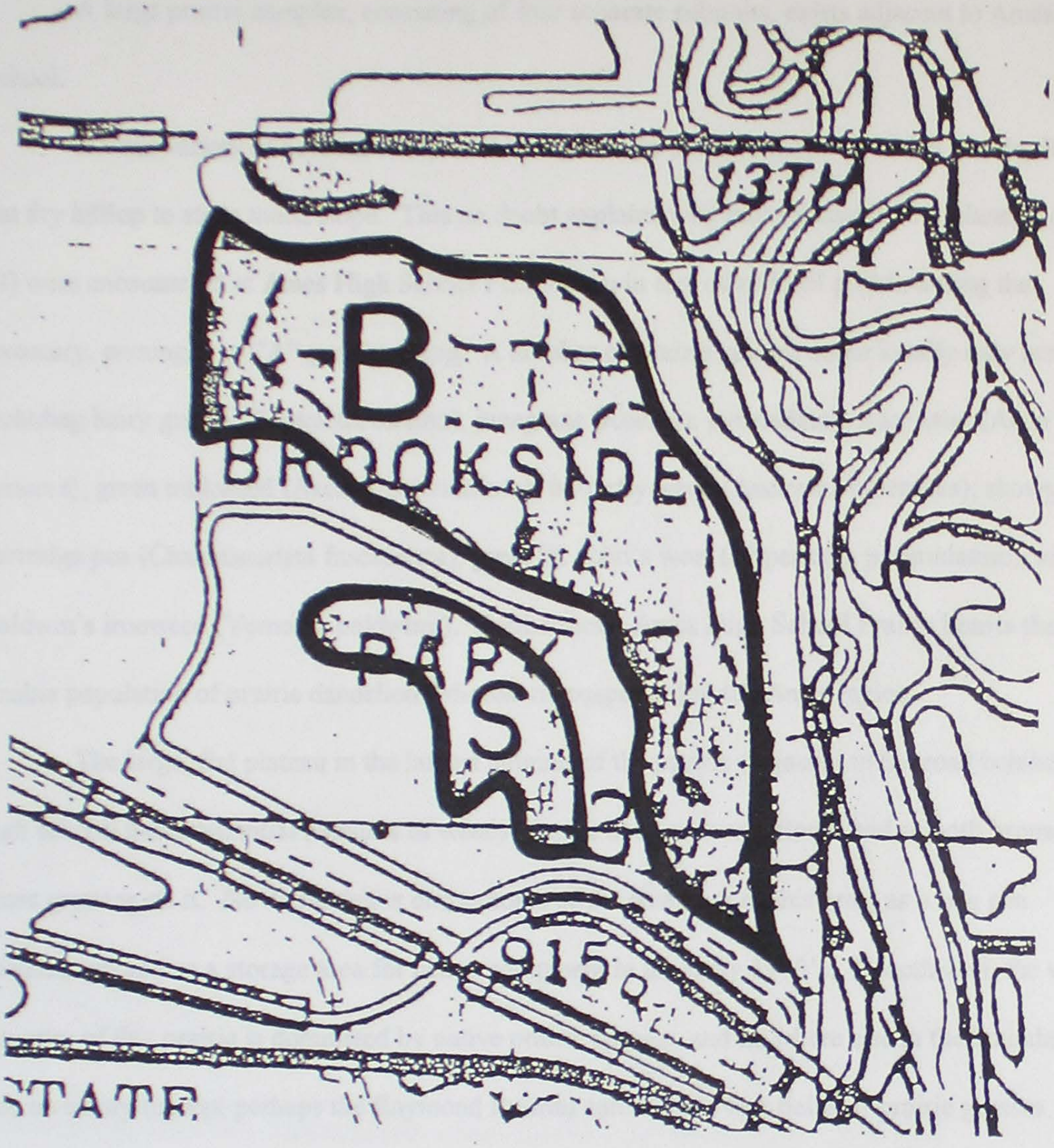
Lately, a dense carpet of two introduced plants commonly used to reseed roadsides (bird's foot trefoil and crown vetch) has taken over large areas inside the prairie. These will have to be controlled if the Thirteenth Street Prairie is to be maintained.

Brookside Park

Brookside Park is a much used public area in the center of Ames.

A large alluvial woodland occurs on the north end of Brookside Park ("B" quality woodland) adjacent to Squaw Creek. At least 12 species of canopy trees typical of floodplain forests (some of the largest in Ames) occur here. The understory contains a high diversity of native saplings and shrubs, but some introduced shrubs (e.g. Tartarian honeysuckle and white mulberry) are conspicuous here and detract from the overall natural quality of this woodland. A rich diversity of woodland wildflowers occurs in this part of Brookside Park and the entire woodland swarms with migratory birds during the spring months. These woods are heavily utilized as an outdoor teaching lab by various biology classes taught at Iowa State University.

The portion of Brookside Park designated as a special resource ("S" quality level) is an area with very large shade trees where the understory (saplings and shrubs) has been almost completely removed to accommodate recreational activities in the park.



BROOKSIDE PARK

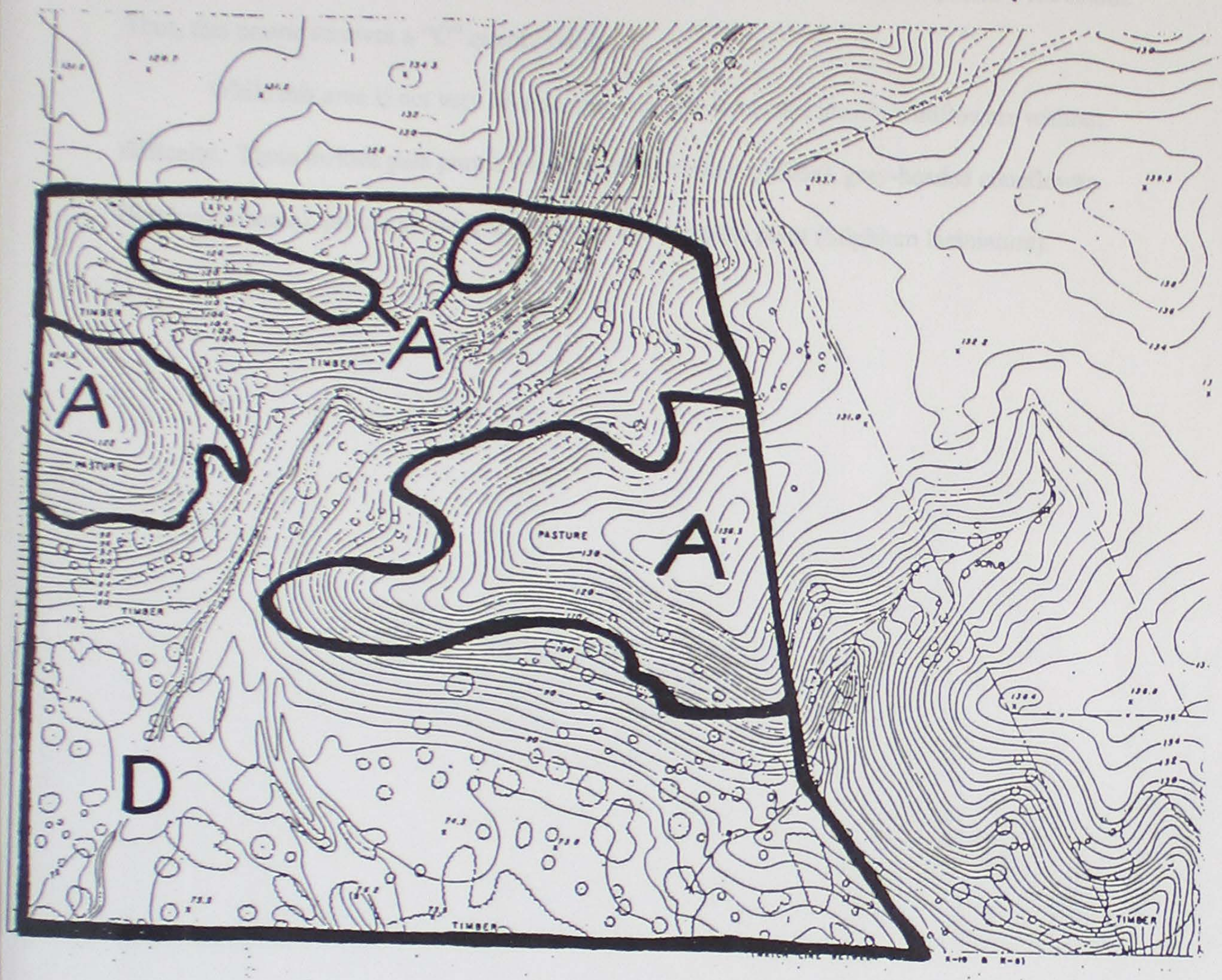
Ames High School Prairie

A large prairie complex, consisting of four separate subunits, exists adjacent to Ames High School.

A wide variety of habitats are available to plants in the four subunits of this prairie, from flat dry hilltop to steep moist slope. This no doubt explains why more native prairie plants (at least 93) were encountered at Ames High School Prairie than in any other local prairie during the inventory, earning it an "A" quality rating. A number of prairie species occur locally only here, including hairy grama (Bouteloua hirsuta), junegrass (Koeleria pyrimidata), silky aster (Aster sericeus), green milkweed (Asclepias viridiflora), butterfly weed (Asclepias tuberosus), showy partridge pea (Chaemaecrista fasciculata), great St. John's wort (Hypericum pyrimidatum), and Baldwin's ironweed (Vernonia baldwinii). Furthermore, Ames High School Prairie boasts the only sizable population of prairie dandelion (Microseris cuspidata) in the Ames region.

The large, flat plateau in the largest subunit of the prairie (adjacent to the road behind the high school) has substantial amounts of weedy species such as sweet clover and smooth brome grass growing on it. No doubt this is due to some of the past uses of this area, as a hog pen decades ago and as a storage area for heavy equipment in the early 1970's. Nonetheless, the vast majority of this prairie is dominated by native prairie species, and no where else in the boundary of this inventory (except perhaps the Raymond Prairie) can one see vast fields of prairie grasses waving in the wind as they once did across the state prior to settlement.

The woods surrounding the subunits of the prairie are all severely disturbed, with virtually no natural vegetation occurring in them. Elm, hackberry, honey locust, and black walnut are the dominant trees in the canopy, while Tartarian honeysuckle is extremely lush in the understory of the woodland. Obviously, these slopes were cleared of timber years ago. Therefore, this woodland receives a "D" quality rating.



AMES HIGH SCHOOL PRAIRIE

Railroad Prairie (South of Gilbert)

Prairie vegetation is found along a railroad for more than a mile just south and west of Gilbert. This area was surveyed once, in mid-summer, and 15 native prairie species were found. Thus, this prairie receives a "C" quality rating.

While this area is not very diverse, one can find some nice prairie wildflowers without difficulty. These include pale purple coneflower (Echinacea pallida), grey-headed coneflower (Ratibida pinnata), prairie phlox (Phlox pilosa) and compass plant (Silphium laciniatum).